Upper left, a drawing by Harold Flucke. Lower left, an illustration by Al Parker. Upper right, a cartoon by H. T. Webster, copyright New York Herald Tribune Syndicate. Lower right, a painting by Dean Cornwell. Center, a decorative figure in color by Blanche Berkoff with four stages of its development shown, reduced, in black and white. 1: Light pencil drawing for action and proportions. 2 and 3: Most important color masses put in with sure brush strokes. 4: Spots of color and details added. Accents and a few more details complete the picture in less than ten minutes. To be effective, this technique must be free and quick, otherwise the result will have a stiff, labored look.

A Complete Guide to

DRAWING
ILLUSTRATION
CARTOONING
AND PAINTING

Selected and Compiled by

GENE BYRNES

with editorial assistance and text

by A. Thornton Bishop

The Artists

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By Way of Introduction

LEARNING BY *demonstration is undoubtedly as old as the earliest tendencies of the human family to imitate one another. It is a method by which knowledge has been conveyed from one generation to each succeeding generation, and, before the advent of books, it served to perpetuate ideas. It has appeared in a newer form during the past quarter century, and has been accorded academic honors and given a new name—visual education.*

Years ago the stereopticon lecture, and later the motion-picture film, comprised a new technique of teaching by demonstration and of disseminating knowledge broadly and rapidly. The school systems embraced it to such a degree that it now competes with, and in some instances supplants, textbooks in teaching certain subjects. Industry has adapted its methods to personnel training programs. Sales organizations find in it a means for a more complete and graphic presentation of merchandise than was possible by the written or spoken word. The visual demonstration has standardized merchandising, and the results have paid rich dividends.

In passing its specialized and technical information from teacher to student, the field of art has flourished in the use of visual aids. The master-and-pupil relationship by which the arts developed in classic and Renaissance times gave way to the broader dissemination of knowledge in the schools and ateliers of the present time, though even today not everyone is fortunate enough to receive instruction and encouragement from an artist and craftsman eminent in his profession. To observe and study the methods employed by a top-flight technician in the making of a drawing or a painting is a special privilege, and art schools frequently endeavor to found their prestige on the fame of some outstanding figure in the profession.

It seems obvious that the most desirable combination for the instruction of art would be a staff of artists, each a leader in his or her respec-

tive field, who could disclose by demonstration and explanation the way to produce a successful piece of work. To assemble such a staff would be impossible because such artists might not be centrally located. Furthermore, all good artists are not good teachers. They may be so constituted as to lack the patience to struggle with a student's problem in an elementary and fundamental way. The effects they obtain so quickly through long practice they now accomplish almost instinctively, forgetting the many steps along the way they traversed tediously in order to arrive at the present result. These steps, so necessary for a student's progress, are too frequently forgotten by the accomplished artist. This accounts for the small number of high-ranking professional artists who are also competent teachers.

In this book the work of leading artists is arranged in a progression of steps showing how they arrive at their finished work, and here is also the explanation of these steps. In many cases the explanation is given in the words of the artist himself, supplemented further by such text as seemed helpful in giving to the student a more rounded description of the artist's methods. This presentation should prove a most valuable means of real instruction.

A study of the methods of prominent artists does not mean that this alone constitutes a full course of art training. Far from it. Nothing quite equals a close relationship between student and teacher, through long hours of drill and practice. Nothing quite equals the encouraging criticism of an instructor to a downhearted youngster whose sense of values and standards often outrun his abilities. A student thrives upon the confidence only a competent instructor can give. Timidity in expression can be corrected by a demonstration of courageous attack. Discouragement can be thwarted by the renewed inspiration of an understanding teacher. To accomplish this within the covers of a volume is a worthy goal, and in an effort to

reach this goal many outstanding artists and teachers have been consulted. For their help we are truly grateful.

Many excellent books have been published on drawing, painting, selection and organization of material for a picture, as well as suggestions for the use of art materials. It is not the purpose of this book to treat all of these subjects in particular detail, but rather to explore the important elements of art, to stress their application in work suitable for commercial use and exhibition. Knowledge concerning composition of a picture, the use of perspective, and fundamental facts about color are included. However, it would be beyond the capacity of any one volume to take the student step by step through a series of exercises comprehensive enough to accomplish technical perfection in any particular field. The information placed at a student's disposal should, with serious application, direct him toward creditable achievement, with success determined solely by the peculiar abilities of the individual.

The saying, "Anything is good if it serves a purpose," uttered by Joseph Cummings Chase, famous portraitist, and head of the Department of Art, Hunter College, in New York City, perhaps keynotes the basic value of this addition to an already large literature of art-training books. It also defines its basic difference from the others. In art, as in every practical orbit of life, if a thing does not function, if it does not fulfill the need for which it was devised, it has little or no value. Many a drawing that is admirable in respect to its technical execution has failed because its message was not properly directed to its purpose. It failed to fulfill the need for which it was made, regardless of its careful draftsmanship, its superb coloring, or its masterful composition.

The purpose of a drawing or painting varies with the different fields in which it may be used. For instance, if a manufacturer of machines requires a drawing of one of his products for display in a catalogue, he wishes to emphasize the sharpness, the high-polished surfaces, the capacity of the machine for smooth-running performance. The drawing for him must suggest precision and accuracy in its treatment. A rendering of the machine in black-and-white water color defining all details carefully, or a photograph retouched with

a treatment of dark and light accents, would fulfill the requirements, whereas a drawing lacking these qualities would fail, regardless of how well the subject had been drawn or painted, or what other "art" qualities it might possess.

Each problem in art requires special study, beginning with an understanding of the need the new creation is to fulfill. This might be termed "the approach to the problem," and this preliminary study often determines what the picture will look like and what materials will be employed to produce it. In the fields of fashion, food, furniture, architecture, or in magazine illustration, the artwork is to be put to a particular use, and it will be good only if it serves its particular purpose. For this essential end, the student will find herein helpful guidance toward a successful art career.

A large number of people desire to know how a thing is done, whether or not the information will aid them in their own field of endeavor. The achievements of an artist at work are especially fascinating, and much satisfaction may be had in knowing the genesis of the paintings and drawings that appear in the national magazines. This large appreciative public may or may not be conscious of the fact that they seek to understand beauty when they study the development of beautiful things. But without their appreciation making itself manifest by inquiry and patronage, the progress of art, commercially and noncommercially, in America might have been more delayed. The author and publishers are aware of the broad influence for good that the public may exert upon the progress of art in America, and, in the preparation of such articles in the book as seem technical in character, care has been taken to use terms that are easily understandable.

The so-called lay reader is not of necessity confined to the role of observer and appreciator of the work of others. Through a system of easy steps, the elementary considerations of drawing are here explained so that facility may be acquired by almost anyone. A simple drawing executed by a comparatively untrained hand may illustrate adequately some important idea, and everyone who desires to acquire such a facility will find the suggestions in the chapters on "Expression Through the Use of Drawing" and "Comic Drawings," which include "matchstick drawings," very helpful.

Expression Through the Use of Drawing

AKING ONESELF clearly understood sometimes imposes a great responsibility on the English language. Regardless of how lucidly one may express the greater number of his thoughts, not all ideas find words the perfect medium by which they may be conveyed into the mind of another. Some things just can't be explained orally; they need a "blueprint."

Drawing, the oldest of languages, has served by its simplicity and universality to bring, through picture writing, a knowledge of the earliest periods of recorded history down to the present time. The picture writing of the Indians and the hieroglyphics of the Egyptians were expressions by means of symbols, and anyone who would acquire the facility of a new language would find a study of its symbols a helpful beginning. As we study simple phrases of speech before we tackle the masterpieces of literature, so should a student become adept at expressing himself with symbol diagrams before exploring the complexities of drawing and painting. "When you are drawing, you are not defining a form," says Harvey Dunn, painter of rugged Americanism, "but symbolizing an idea."

Things which one finds more easily understandable in a drawing than in words include directions to places, gadgets that have not yet been manufactured, suggestions for advertising displays, diagrams that serve to demonstrate how a product would aid someone, and geometric shapes that can be described only in the language of a textbook. For ideas concerned with new devices, or where a clear explanation of the arrangement of the different elements is paramount to the making of the thought comprehensible, a few lines with a pen or pencil can do the work of hundreds of words, and with amazing rapidity.

Were a person never to become an artist, either professionally or as an avocation, the facility of supplementing his use of speech with explanatory drawings and diagrams would increase his breadth of expression tremendously. The poet, the musician, the gifted writer, and the artist are spoken of as being more articulate than individuals in other walks of life because they all practice the means of conveying creative ideas from a nebulous state in their minds to a form readily understood by most people. For this reason, facility of expression in drawing and in the other arts is spoken of as articulation.

This graphic language is of incalculable value to salesmen who by its means can illustrate quickly some seemingly vague angle of their presentation and solve a knotty problem impeding the closing of a deal. It may become an important factor for the executive who endeavors to make his instructions definite and complete. The statistician must organize a mass of information and present it in a simplified form for the less technical mind to grasp readily. The question of how a person can commit an arrangement of lines definitely to paper if he has never trained himself to visualize such an arrangement in his mind has its parallel in the question: how does one write a sentence without composing it mentally? The answer is drill and practice. Not all minds compose ideas in tangible form without practice in the forming of mental pictures. This is true even if the mental pictures make their advent in the outer world in the form of words. To project the mental picture in graphic form and register it on paper is not beyond the ability of anyone who makes the attempt earnestly, with the aid of a few suggestions, regardless of his interest in or special ability for practicing in the field of art.
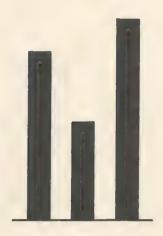
Frequently the process of drawing aids the visualization of an idea, which develops as the drawing progresses. Elements of the idea when arranged on paper sometimes suggest their own way of co-ordination, and many a designer, engineer, or architect has stumbled over the solution to his problem as he studied it in his simple, preliminary drawings.

Drawings for Business Ideas
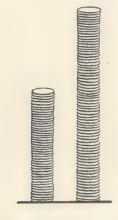
An idea may be projected as a plan, a chart, or a layout of a printed page, as an advertisement, or some diagrammatic sketch through the means of simple lines. Charts are a convenient means of displaying complex data in an easy way. They are used frequently by business houses to record market and sales trends, by financial firms to show the fluctuations of investments, and by statisticians and economists generally. The ability to draw them is invaluable to the business executive, and some suggestions regarding them will be helpful.

A "bar" chart is indicated in Figure 1. In this
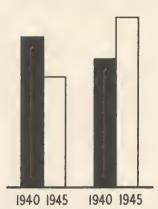
FIGURE 1

Relative volume is suggested by the bulk and height of the bars.
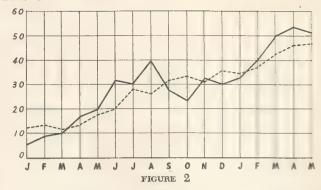
Stacked coins show relative sums of money.

1940 1945   1940 1945

Change is noted in conditions during periods of time.

"A"   "B"

When a symbol suggests the article, it should be used throughout the comparisons.

FIGURE 2
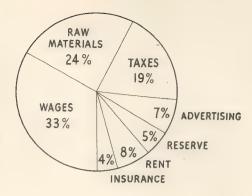
A comparison of trends may be shown on a grid chart. Letters are used to indicate months; numbers may represent any unit of quantity. Trend lines should differ in character, to be easily distinguishable. All changes of direction in trends should occur at intersections, to aid in the definiteness of the report. When more frequent intervals of time are desired, additional lines are recommended.
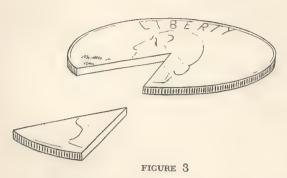
form of chart, the relative heights of the bars may represent proportionate volume of material, or the progress of an enterprise, and the only element of the drawing for which the student should give attention to accuracy is the relative height and bulk of the bars which establish the desired impression. Coins stacked in piles and pictorial symbols shown in varying sizes are interesting ways of adapting the bar chart so as to suggest the subjects compared.

Figure 2 shows a "line" chart, a form that is used often to indicate trends of events. The chart, frequently referred to as a grid, is divided into small rectangles by straight lines, each line representing graduated progress. These crossed lines give the name to the chart. The trends, represented by bolder lines, pass through points located on the grid according to information acquired. The advantage of this chart is that many trends may be shown, with progress noted downward or upward.

Figure 3 is known as a "pie" chart. It consists of a circle representing 100 per cent of some substance. The divisions of the parts are indicated by pie cuts, proportionately related in percentage to the whole. This form of chart is used frequently to show the component parts which make up total income or expense. A common variant is used to show a taxpayer how his tax dollar is spent.

Pictorial symbols which represent units or parts of a unit offer a graphic presentation of material

FIGURE 3

Pie charts present a clear division of a total quantity. The quantity need not be money; it might be the composition of a chemical, with the breakdown serving as a means of emphasizing the component parts. The "segment removed" is a familiar technique used when the emphasizing of a single element of the whole is desired.
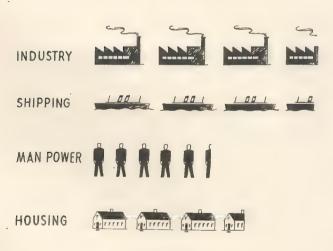
FIGURE 4

Pictorial symbols make an interesting variation of the bar chart. Each symbol is used to represent a definite quantity, which explains the use of half a symbol. The possibilities for the use of symbols are limitless.

on a quantity basis. Figure 4 shows a few such symbols; any number of articles might be symbolized in this kind of chart.

Merchandising ideas may be suggested as advertisements, the various elements being composed within a rectangle approximating the proportions of a billboard or a magazine page. These two advertising mediums are mentioned because they are the ones most familiar to the average observer. Since the projection of the thought, or
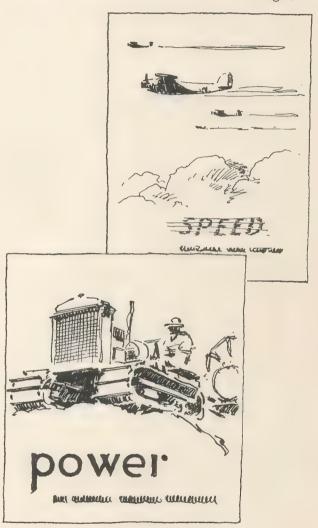
FIGURE 5

Rough indications, sketched to present only the idea, are possible even for a student with a minimum of art instruction. The flight of aircraft is suggested by the horizontal lines in contrast to the slowly moving cloud; the power of a low-geared tractor is felt because of the massiveness of the caterpillar treads. When suggesting an idea, the student should think only of expressing the essence or chief characteristic of the object, and should not regard too seriously the details of the drawing.

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creative idea, is the chief purpose at this step, further suggestions directed toward the drawing of the idea will be discussed at a more advanced stage in the student's progress. Arrangements of type and illustrations on a page offer countless opportunities to the person, without the advantages of art training, interested in merchandising. Figure 5 shows a couple of possibilities. One suggests the idea of speed; the other of strength.

Drawings for the Constructively-minded

In the methods mentioned above, the idea is presented in two dimensions—width and height. If the idea concerns something to be built or erected, it involves consideration of three dimensions—width, height, and depth. The suggestion may be presented with the aid of a "top view" or plan, and a "front view," called an elevation. Figure 6 shows how a cabinet may be drawn in such a manner as to instruct a carpenter engaged to build it.

PLAN

FRONT ELEVATION   SIDE ELEVATION
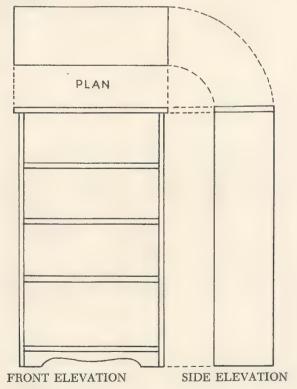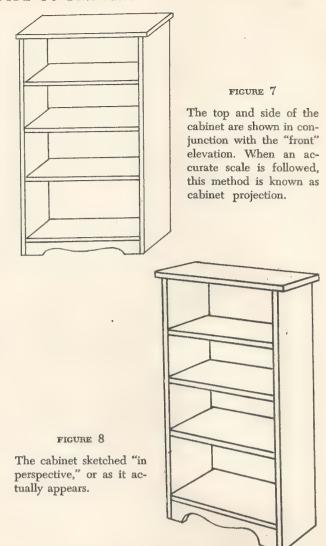
FIGURE 6

The elevation and plan of a cabinet with shelves. When special instructions need to be given concerning the side of the cabinet, a "side" elevation may be added.

FIGURE 7

The top and side of the cabinet are shown in conjunction with the "front" elevation. When an accurate scale is followed, this method is known as cabinet projection.

FIGURE 8

The cabinet sketched "in perspective," or as it actually appears.

The information presented in these two drawings may be contained in a single drawing by adding to the elevation lines to indicate the top and one side of the object. In this way the object has been shown almost as it appears, but without the use of perspective. Perspective is a means of drawing the object not as it is but as it appears to be, whereas elevations, like plans, are diagrams to indicate actual conditions wherein nothing is shown as it appears. In Figure 7 the cabinet is shown in elevation with the additional lines added to suggest the top and side. Figure 8 shows the cabinet drawn in perspective, or as it actually appears, with the lines forming the front and side, which were shown parallel in Figure 7, converging as they recede from the eye. This optical condition will be explained in the following chapter.

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ALL
MEASUREMENTS
IN SAME
SCALE

30 DEGREE
ANGLE

ISOMETRIC PROJECTION
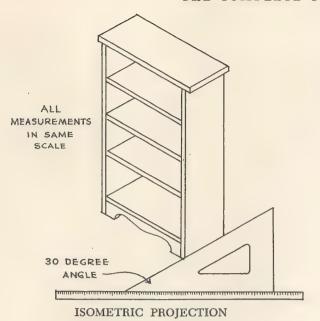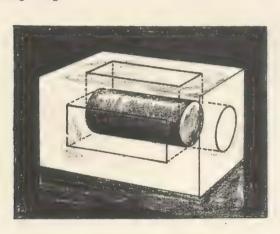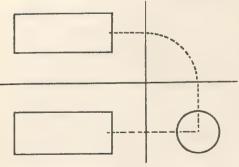
FIGURE 12

Reverse the position of the triangle, to draw the lines which form the front of the cabinet, maintaining the same "long side" of the triangle as the base which is laid against the straight edge.

tion. In this method there are three lines which are called isometric axes. They are a 30-degree line off the horizontal in one direction, a 30-degree line off the same horizontal in the other direction, and a vertical line. These three lines, drawn from the same point, form a flat *Y*. These axes represent lines perpendicular to each other, and correspond to the three dimensions, length, width, and height. All measurements on the drawing are made parallel to one of these three axes. Whereas in the cabinet projection the length of the lines perpendicular to the elevation is made one half the scale of the lines *in* the elevation, in the isometric-projection method all measurements are in equal scale. Each of these methods is particularly adaptable to the drawing of rectangular objects. Drawings of nonrectangular objects made by either of these two methods are likely to be unsatisfactory.

Among the advantages in the use of these methods is that measurements can usually be scaled from the drawing. However, both appear to

Orthographic projection requires of the imagination two distinct processes: (1) to conceive each view on the corresponding plane of projection . . .

(2) To determine the positions of the different views with respect to the ground line and to each other when the planes of projection have been brought into one plane.
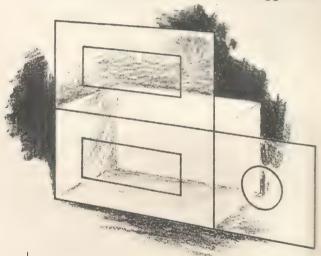
What the finished drawing will look like.

ORTHOGRAPHIC PROJECTION

FIGURE 13

be distorted views of the object because the lines which appear to converge, and are so indicated in a perspective drawing, are parallel in cabinet and isometric projections. Furthermore, whereas one may choose a point of view from which to draw the object in the perspective method, the points of view in cabinet and isometric projections are established and cannot be changed. Figure 12 shows the use of a 30-degree angle of a triangle and a straight edge in making an isometric drawing of our familiar cabinet.

Objects that are not rectangular need to be drawn from such points of view as will show their contours comprehensively. Each point of view may be considered a plan of projection, and in representing solids a minimum of two planes is required — a vertical plane and a horizontal plane. When an end view is needed it may be considered an extension of the vertical plane.

The student will visualize this condition more readily if he thinks of the solid as encased in a block of glass having rectangular sides. Figure 13 shows a cylinder encased in such a manner. As the cylinder is viewed through the sides, the top, and the end of the block of glass, it appears as an oblong through the top and side, and as a circle through the end. Let us now consider these faces of the block of glass as planes of projections, and trace on them the shape of the cylinder by extending lines perpendicular to the planes of projection to meet the cylinder. Now, suppose the top and end planes are turned forward so that they are level with the side plane. These three views of the cylinder describe it completely. This method of representing solids is known as *orthographic projection* and can be applied to many problems where other methods of representation are inadequate.

Brief though they may be for a subject so vast, these descriptions of methods in mechanical drawing are given to acknowledge their usefulness, and to suggest to the reader who may be mechanically inclined that he pursue the subject in a book specializing in that particular field.

Drawings for the Decoratively-minded

Many people think in terms of three dimensions but make explanatory drawings of them in two dimensions. Ideas for interior decoration and for landscaping are frequent subjects for drawings made to explain one's desires to another. Suggestions for expressing these ideas should prove helpful to many people, for through such expression homes and gardens, the subjects of our constant care, may be enriched and beautified.

A certain aesthetic sense pervades most people which directs them consciously or unconsciously to select and arrange things according to a seemingly inexplicable preference. In all probability most people ignore the existence of the aesthetic forces. This is not surprising, nor is it disappointing. That we exercise judgment in selecting something is far more important than that we understand what prompts us to select it. Each selection contributes some emotional experience to us, and through it we develop our appreciation of beauty. Beauty is approached through the emotions, not through the intellect.

When we arrange the articles on the mantelpiece, or the grouping of furniture in the room, we may or may not recognize the existence of principles which govern the relationship of mass to space. But we react to them.

Space is the other half of our material world, and in this intangible element all things assume their relative places. Space is one of the most important elements in every work of art. It is the counterpart of silence in the cadence of sounds, like the pauses in speech and the rest beats in music. It is essential to the full appreciation of sculpture, and it has attained recognition in our workaday world through the municipal ordinances for zoning which control the height and bulk of buildings, to assure adequate light and air in areas that would otherwise become dark and undesirable.

In two-dimensional compositions, as in drawings, space is represented by blank areas which help to emphasize a design when a pleasing relationship is maintained between the two. A student can begin his understanding of the importance of space by observing in patterns of decoration and in pictures its relation to the area where the surfaces have been enriched by a decorative treatment.
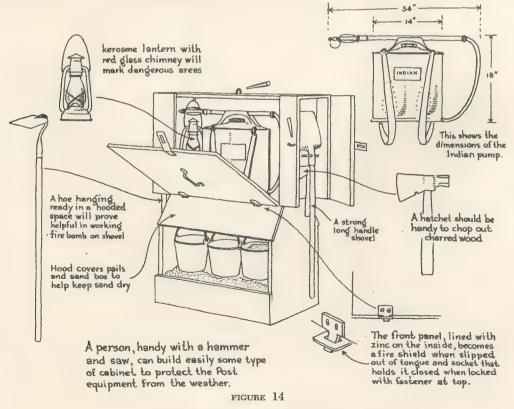
Ideas suggested for the decoratively-minded appear on an accompanying page in groups suit-

able for the garden enthusiast, the interior decorator, and the designer of advertisements and printed pages. Other patterns available for study by the student may be found in designs for wallpaper, dress and upholstery fabrics, carpets and linoleums, in which the idea is repeated continuously, and in limited areas such as rugs, architectural ornament in panels, and arrangements of type, which are frequently inclosed by a border. The border itself is a limited area in which geometric forms, and forms conventionalized from nature, are often used.

It is enough at this stage of a student's progress that suggestions sufficient to stimulate or awaken his creative impulses be shown to indicate the broad field for expression through the use of drawing. Study of the elements of design and composition is reviewed in following chapters.

A drawing that offers an interesting illustration of the purely explanatory type is shown as Figure 14. It was made by an air-raid warden to suggest an equipment closet for an air-raid post in a suburban town. It was not made as an effort in

art, and it combines the use of perspective and elevation views with little regard for scholastic practices. The dimensions for only one article are given, but that article establishes the scale by which anyone handy with a hammer and saw can determine the size of the cabinet. Articles of common usage, having a standard size, also aid in establishing the space required for them. The drawing was made freehand in outline with a pen. Additional lines to suggest shading were held to a minimum, and dots were used to indicate sand.

Imagine the number of words that would be needed to tell all that is conveyed in this simple drawing with its brief explanatory texts. The drawing amply illustrates its value as a means of expression and should encourage many people to overcome the fear of reaching for a pencil and indicating on paper the ideas they have in their minds. Whether or not their hours of practice lead them to higher levels in art, they will have gained a medium through which their ideas can take shape and be expressed. They will become more articulate.

kerosene lantern with red glass chimney will mark dangerous areas

This shows the dimensions of the Indian pump.

A hoe hanging ready in a hooded space will prove helpful in working fire bomb on shovel

A strong long handle shovel

A hatchet should be handy to chop out charred wood

Hood covers pails and sand box to help keep sand dry

A person, handy with a hammer and saw, can build easily some type of cabinet to protect the Post equipment from the weather.

The front panel, lined with zinc on the inside, becomes a fire shield when slipped out of tongue and socket that holds it closed when locked with fastener at top.

FIGURE 14

A pictorial explanation of how to construct an equipment cabinet for an air-raid warden's post.

Elements of Freehand Drawing

To DRAW WELL requires a careful study of the relative value of things. This study increases the powers of observation, and unless the things we see are comprehended accurately there is small chance of their being accurately recorded in a drawing. Good drawing portrays characteristics in objects that are frequently unnoticed by the casual observer, and these characteristics show the relative value of the different parts of the object.

Curiously enough, when a person is asked to describe a friend's appearance the verbal picture begins usually with the facial features and ends with the style and cut of the clothes, frequently including some reference to the neckwear if the subject is a man, or certain dress accessories if a woman. However, when he recognizes his friend at some distance, these characteristics are not the prominent ones. Instead, it is the person's posture and carriage, the squareness or stoop of the shoulders, the spring or shuffle of the walking gait—characteristics peculiar to the individual — which make the impression familiar to his friend. These are recognized easily at a distance too great to permit discernment of the details of face and clothing.

This incongruity illustrates one of the foremost problems that confront the average individual in his approach to becoming a good draftsman. Attention to detail is likely to outweigh in importance the seeing of the whole object as a single thing, a tendency common to the early efforts of a beginner. To express more definitely the results of this concentrated study, the student resorts to the use of a sharp instrument like a pencil, a pen, or a brush with its hairs tapering to a fine point. This results in the use of line as the first means of expression of the average art student.

FIGURE 15

Lines are important as an element in good drawing, though their value is limited, and a student should not depend upon lines alone to accomplish everything. A single line is symbolic; that is, it represents form by defining the division of areas, the boundaries of areas and their contours (Figure 15). Straight lines may be used to suggest rigidity and dignity; curved lines suggest movement and grace. A line drawn as a circle suggests unity and completeness, and causes the eye to shift to the center of the circle, a fact which accounts for its use in many forms of art. Lines are comprised of a series of points, and when these points are alike in character, the eye moves easily along their course. When they are intersected by other lines, or the points change in character, the eye responds to this attraction and the line takes on its first interest in the expression of an idea.

There are no lines in nature, and when we use lines to represent things we only define the boundaries of the object in space, and possibly subdivisions of the object. Even the thin, bare branches of a distant tree have substance, and, in the use of fine lines to suggest the spider-web delicacy of the pattern which the branches make against the sky, the artist employs them as a symbol.

Beauty can be expressed in a single line, as in the contour of a Greek vase. "The charm of a line consists of the relation of its parts," says Santayana, and the Greek vase with its combination of "fast" and "slow" curves is a fine instance. The fast turn of the line denoting the shoulder of the vase gives a pleasing contrast in movement to the long sweep of the side where the change of direction of the line occurs more slowly (Figure 16). Contrast in quality and length and direction of a line is a means of expressing beauty. When we speak of a

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curve as flowing or graceful, we refer to the movement which produces in us a consciousness of pleasure.

Orientals and the ancients represented form by line almost exclusively in the decoration of their monuments. In Egyptian sculpture, the severity and the simplicity of the edges which form the contours dominate any secondary modeling of the figures. The mass of the Sphinx, for instance, and the Colossi of Memnon towering above the Nile are silhouetted starkly against the sky, and their bold contours present their outstanding characteristics (Figure 17).

The student should delay no longer to begin acquiring an understanding of line, and much may be learned of its possibilities as a means of expression, but no lesson will be of more value than the one through which the beginner realizes the limitations of the use of line alone. It is easy for us to think of objects as bounded by edges; pictorial representations of them seem simpler that way.
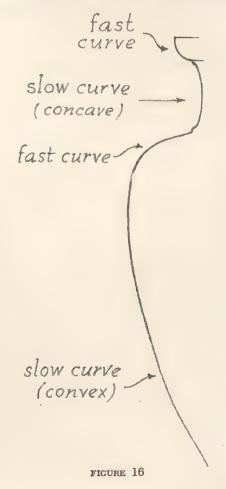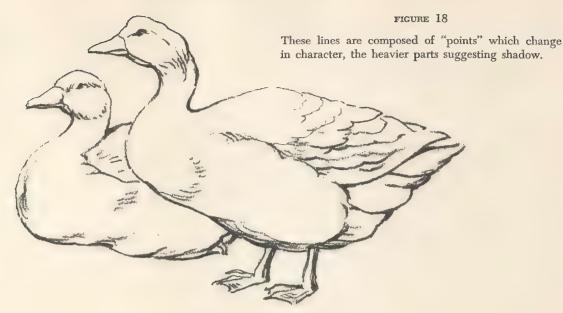
FIGURE 17

Above, the Sphinx, and, below, the Colossi of Memnon, demonstrate the power of the contour line which dominates the modeling.

fast curve

slow curve (concave)

fast curve

slow curve (convex)

FIGURE 16

Children use outlines almost exclusively to convey their first impressions of things. It is a sort of diagram of an object. This method of presentation is used in professional fields for various purposes. In mechanical and architectural drawing, lines are used because they can be intersected with precision. Such drawings are made with the use of a pen or pencil, and the uniformity of line and the decisiveness it suggests become a pleasing characteristic. In freehand drawing, variation in the

FIGURE 18

These lines are composed of "points" which change in character, the heavier parts suggesting shadow.

width of the line offers large opportunity to suggest interesting effects (Figure 18).

The only materials needed at this stage of the student's study are a pencil, preferably a 2B grade (medium), and a pad of white drawing paper perhaps 11 by 14 inches in size. Pads both larger and smaller may be obtained, but the size suggested will be found very convenient.

Plant Life Offers Interesting Material for Study
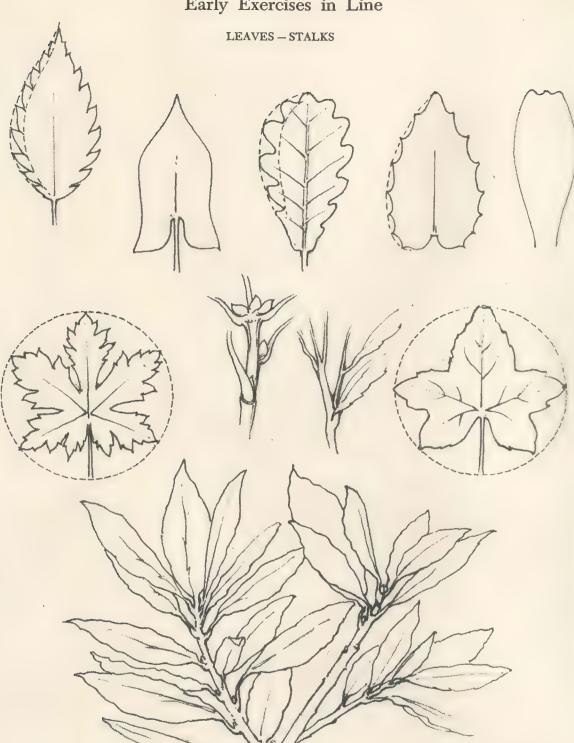
NATURAL FORMS are selected for a student's earliest efforts because of the many interesting observations to be made that are data which are fundamental in advanced stages of an artist's progress. Line drawings of leaves and flowers may be accomplished successfully by a beginner who carefully observes the characteristics of the subjects. Their outstanding characteristic is the symmetrical balance of their parts. It is also to be observed how many leaves are basically circular.

The stem and center vein lines are the elements to establish first because the smaller vein lines radiate from these. In drawing the maple leaf, for instance, the main vein lines branch from the stem near the base of the leaf and form the structure on which the secondary vein system is developed. The drawing of the edges of the leaf should await the completion of the structural lines which suggest the stem and vein system. This method will prove helpful in determining the character peculiar to each kind of leaf.

A sprig from the mountain ash shows an example of nature's symmetry. Here the leaves branch from a center stem in pairs, one on each side, the stem terminating with a single leaf in a group of three. As the stem progresses, the pairs of leaves become slightly smaller, and the intervals between them slightly shorter. Ferns are other examples of this type of foliage.

In drawing flowers, a study of the petals will disclose the characteristics by which they will be readily distinguishable. The majority of blossoms radiate from a center. In the daisy, cornflower, geranium, violet, and aster, this method of growth is apparent; in the rose, lily, carnation, magnolia, and chrysanthemum, the petals obscure their junction with the flower stalk. To draw flowers in the latter group the student will find it helpful to sketch lightly the general shape of the blossom, and develop the petal forms as they appear within the outer contour. As in the pompons where the petals are tightly compressed, the petals of the

Early Exercises in Line

LEAVES — STALKS
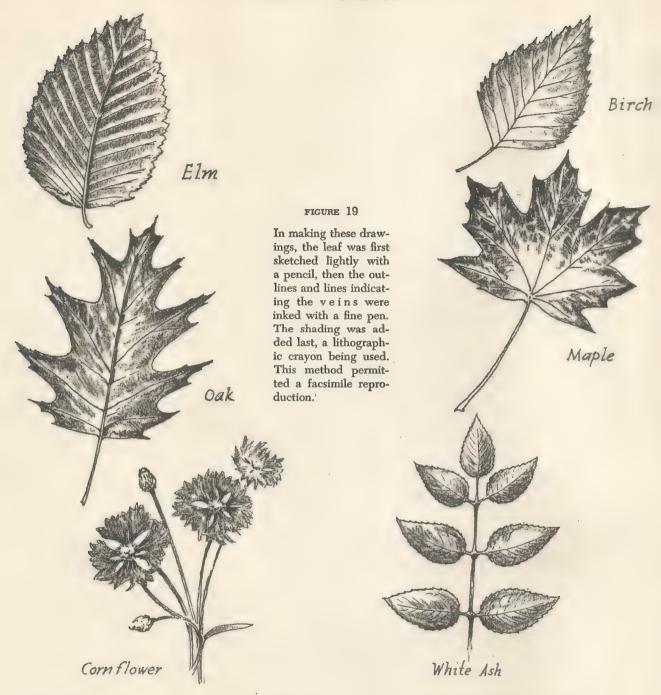
NOTE THE symmetry of the leaves, and the way they branch out from the stalk. In drawing the sprig of laurel, pencil in the branch first, then indicate where the leaves are attached. Draw the leaves last, remembering that the con-struction in drawing will be more successfully attained if the procedure follows the way the plant or tree grows. Accents have been placed at the junction of the leaves and branch, to give a rounded effect to the nodes.

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Natural forms make interesting subjects for a beginner's early exercises in line drawing.

Elm

Birch

Oak

Maple

FIGURE 19

In making these drawings, the leaf was first sketched lightly with a pencil, then the outlines and lines indicating the v e i n s were inked with a fine pen. The shading was added last, a lithographic crayon being used. This method permitted a facsimile reproduction.

Corn flower

White Ash

chrysanthemum form the blossom concealing their junction with the stalk.

Familiarity with natural forms should be made a part of every student's font of information, which he will find essential when he "conventionalizes" plant life in decorative patterns later in his training. Painstaking observation, a faculty indispensable to a good draftsman, offers splendid practice.

In addition to observing the peculiar characteristics of leaves and flowers, the student should study the method by which new life springs from a stalk. The point on a stem at which a leaf is attached is termed a node. Nodes are centers of growth activity in stems, and under ordinary conditions most buds form at these points. The space on the stem between the nodes is called an internode, which varies in length, depending on the type and position of the stem and the exposure of

Magnolia

Chrysanthemum

FIGURE 20

the foliage to the light. The gradual diminishing of the length of the internode should be borne in mind when drawing a tree. As the limbs spring from the trunk, and the branches successively spring from the limbs, the internodes become shorter until the differences between them are im-

perceptible and the branches are lost in a mass of foliage.

Study the outline drawings of leaves and flowers shown here, then obtain some specimens of your own; analyze them for their chief characteristics, then draw them carefully in outline.

Aster

Proportion

To DRAW ACCURATELY, one must measure the object so that all of its parts are in correct relation to each other—that is, the relative length of lines and size of areas must be determined. This is known as establishing correct proportion. Methods for measuring in freehand drawing include the old drawing-class habit of holding a pencil at arm's length in the direction of the object and, with one eye closed, measuring some dimension by sliding the thumb along the length of the pencil, and comparing this dimension with some

other on the object, such as width to height. This method, although useful, has many shortcomings. The hand is too unsteady to be relied upon for information so essential to the value of the drawing. Movement of body or arm produces inaccuracies.

The use of the square is an accepted and recommended method. It seems that the proportions of the square are easily visualized and recognized with accuracy by a majority of people, more so than the proportions of other geometric shapes.

15

The mind sizes up quickly the four sides of a square as having an equal length, and this accounts for this unit of measure serving most successfully as a "proportion finder."

A natural tendency to judge objects in relation to the square can be developed by cutting a square opening in a piece of heavy paper or cardboard and looking through the opening at the object to be drawn. Adjust the opening at a distance from the eye so that the major elements of the object are bounded by the edges of the opening. Then alter the adjustment to fit secondary considerations. In this way the relative proportions of the different parts of the object will be easily determined. Begin the drawing by indicating a square on the paper, then draw what you see through the opening in the cardboard.

It will be noted that all surfaces of an object are not vertical, and all edges are not horizontal and perpendicular. To check the angle of a particular part of an object which varies from the vertical or horizontal, a straight edge should be used, holding it level or upright so that its edge is tangent to the part being checked. Then observe the angle of variance and convey the fact to the drawing. If horizontal and vertical guide lines are established on the paper, the indicating of objects correctly will be made simpler.

When drawing a group of two or more objects, determine the proportion of each to the others in the grouping before proceeding with the finished work. The relationship of spaces between the objects to the solid objects themselves is also important, and in observing the shape of these spaces, a student will find another way of drawing objects with regard to their true proportion.

The Use of Perspective in Freehand Drawing

WE SPEAK OF drawing things in perspective when we are indicating them not as they are but as they appear to be. We know the rails of a railroad track are parallel to each other, and must be if a train is to run on them, but when we look down the track for a considerable distance, the rails seem to converge until they meet at a point.

We observe that objects appear smaller as they increase in distance from the eye, and that surfaces of objects appear in their true proportion only when they are viewed perpendicular to the line of sight. As a surface is turned away from the line of sight, the relationship of its height and width is changed. This change is known as foreshortening.

These few truths which govern the appearance of things are outlined as principles that the student must observe if he is to draw in proper perspective. The methods presented here may be likened to lessons in grammar in the study of a language. There are three terms in this study with which the student should become thoroughly familiar. They are the picture plane, the eye level, and the vanishing point.
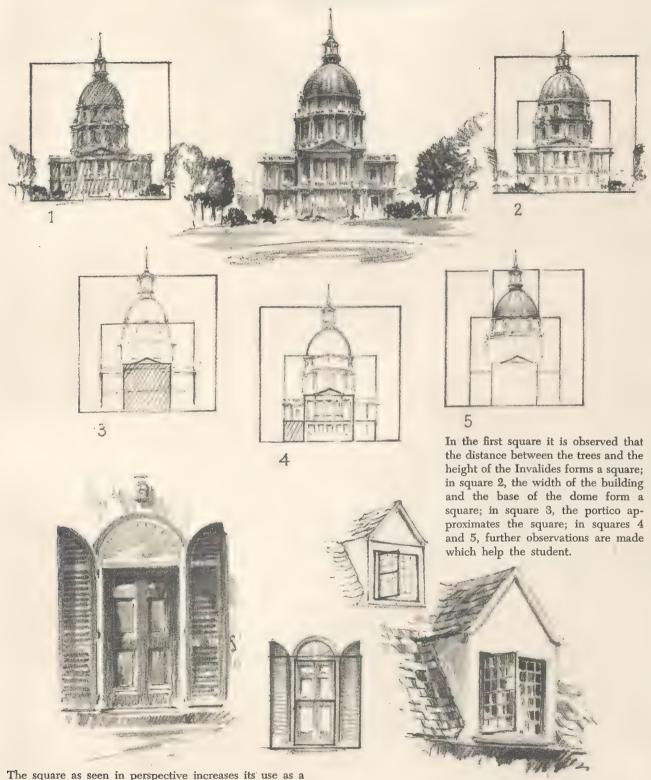
The Picture Plane

If we should step to the window and from a fixed position trace on the glass pane with some marking crayon the outline of the objects we see through the window, the window glass would be serving as a *picture plane*, and by its size it would be governing the amount of material we see. When we draw this same view on a piece of paper, we must establish the picture plane in our minds and select the material we wish to draw just as though the windowpane were there, and by its frame limiting the extent of material to use.

We may then consider that when drawing in perspective we are placing on the paper the same arrangement of lines that we would trace on a transparent surface between our eye and the object. We should observe also that the window glass, or picture plane, is parallel with the face, and perpendicular to the line of sight. The line of sight is the direction toward the central portion of the object or group of objects to be drawn. This focal point should be directly in front of the observer, and is most frequently established at a distance from, and
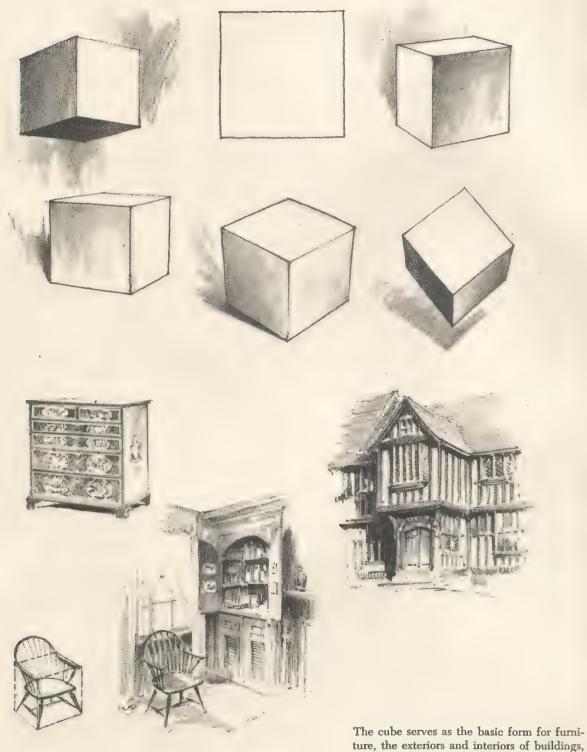
The Use of the Square in Drawing

IT HELPS TO DETERMINE PROPORTION

In the first square it is observed that the distance between the trees and the height of the Invalides forms a square; in square 2, the width of the building and the base of the dome form a square; in square 3, the portico approximates the square; in squares 4 and 5, further observations are made which help the student.

The square as seen in perspective increases its use as a means to determine the proportion of areas.

The Cube and Its Use in Drawing

The cube serves as the basic form for furniture, the exteriors and interiors of buildings, and all other objects that are boxlike in character. Learn to draw the cube in many positions.

EYE LEVEL
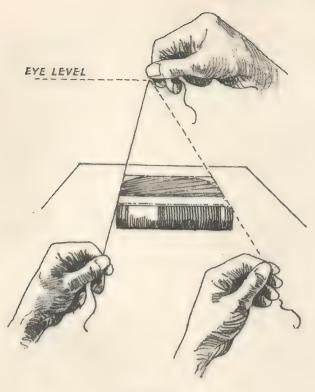
FIGURE 21

horizontal with, the eye. A common variation is for the line of sight to be directed slightly below the level of the eye.

The amount of material which may be included on either side of the focal point should fall within an angle totaling not more than 60 degrees, because this is the maximum latitude for one's vision included in a fixed stare. If the angle is made greater than this, the eye detects a distortion of the true relationships. In effect, the line of sight would be shifted to either side, necessitating the establishing of additional focal points, each focal point the center of a new picture plane. A contiguous series of these picture planes creates a panorama, and an effect which is generally confusing. Therefore, the student should confine himself to drawings where the material is shown grouped about a single focal point, and where a single line of sight is utilized.

The Eye Level

The *eye level* serves as a height, or invisible horizontal plane, extending indefinitely across the line of sight. It is represented as a line to guide the

student in establishing the points of convergence of parallel edges of any vertical and horizontal surfaces appearing in the picture. The eye level need not necessarily be shown in the picture. If the line of sight toward the object is directed either upward or downward rather sharply, the location of the eye level may be outside the picture frame. Nevertheless, its position will govern the lines of convergence of horizontal edges of objects appearing in the picture.

A book is an object common enough for all to use in experiments to determine certain facts about the apparent convergence of its parallel edges as it is placed in various positions. If the student will lay a closed book in front of him so that it is horizontal to and slightly below the level of the eye, he will observe that the edges of the book, which form the width, converge upward. Using both hands, hold a piece of string between the book and the eye tautly, so that by closing one eye it appears to lie along the edge of a converging side (Figure 21). Now swing the lower end so that it appears to lie along the edge of the other side, and adjust the upper end of the string at a height where it serves as the pivotal point for the string when it is in line with either side of the book. This pivotal point is the junction where the two converging lines meet and

TO VANISHING POINT FOR COVER →

VANISHING POINT FOR BLOCK

VANISHING POINT FOR BLOCK

TO VANISHING POINT FOR COVER →

FIGURE 22

19

FIGURE 23

There May Be Many Vanishing Points

We have observed the use of a single point in the convergence of the edges of a book. When the book is turned slightly to the side, we notice that two sets of parallel edges appear to converge, each in a different direction. By again using the string to find the pivotal point for each set of convergences, we discover that each point falls on the eye level. This use of two points is necessary in drawings of buildings shown in perspective. When the object has a depth comparable to its length and width, and is viewed so that the vertical edges also converge, a third point will be necessary to govern this condition.

When the cover of the book is raised, creating an oblique surface, and differing in its plane from either the horizontal or the vertical surface of the book, an additional point is introduced to determine the convergence of the edges of the cover (Figure 23). These edges are parallel just as they were when the cover lay horizontal and converged at a point on the eye level. In the oblique position, the edges of the cover cease to be parallel with the other edges of the book. They no longer vanish to the point on the eye level, but to a new point somewhat above it. In lifting the cover of the book, we have not raised its edges, but have moved them in a vertical arc, so that the new vanishing point must appear directly above the first, and it can be found on a line which passes vertically through the vanishing point on the eye level to which the edges of the cover formerly converged. As the cover is tilted

vanish into what is known as the *vanishing point.* If the book is lying flat on a surface parallel to the line of sight, this vanishing point will be on the eye level.

A vanishing point does not always occur along the eye level. For instance, if the book is placed in such a way as to make the part farthest from the eye elevated, by a block perhaps, the edges defining the width of the book will converge to a point above the eye level (Figure 22). Conversely, if the book is placed so that the part nearest the eye is elevated, the edges will converge to a point below the level of the eye. The rectangular solid shown in the accompanying illustrations, and used to elevate the book in each instance, lies on a plane parallel to the line of sight, and establishes the eye level in these experiments.

FIGURE 24

Vanishing Points for Straight-line Objects

V.P.　　EYE LEVEL　　V.P.

EYE LEVEL　　V.P.

V. P.

V.P.

EYE LEVEL

O.V.P.

O.V.P.

V.P.

EYE LEVEL　　V.P.

To find the vanishing points governing the edges of the sloping roof of a house, apply the principle shown in Figure 23. The vanishing point for the roof will be found directly above the vanishing point for the side, and is known as the oblique vanishing point (O.V.P.).

21
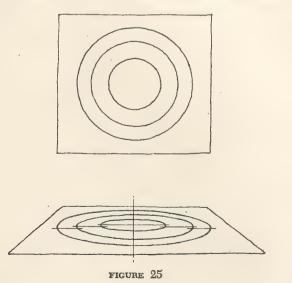
more steeply, the "oblique vanishing point" will be found higher on this vertical line.
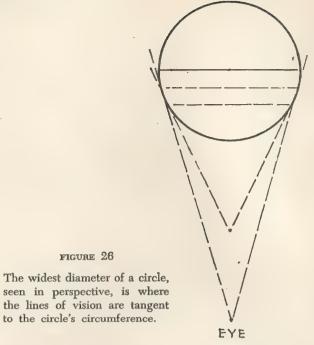
When the cover is held in a vertical position, the convergence ends. As the cover is revolved on its binding edge past its vertical position, and tilts toward the observer, convergence begins again, but downward. The point will be found on the same vertical line passing through the original vanishing point, and below it.

The same principles for determining the foreshortening of vertical planes may be observed in the drawing of a door (Figure 24). Facing a closed door a person can see the actual proportions of its width to height, and will note how these change as the door is opened and swung in a horizontal arc. The student should follow the changing location of the vanishing point on the eye level as the door gradually reaches an open position.

Drawing the Circle in Perspective

Holding a dinner plate so that the line of sight is perpendicular to the surface of the plate, the student will regard it as a perfect circle. When the plate is tipped slightly the circle appears flattened. This peculiar shape, known as an ellipse, is symmetrical and has a short and a long diameter. The edge of this shape is a changing curve, and even when the plate is viewed so that the shortest diameter is hardly perceptible, the rapid change in the direction of the curve at the ends of the long diameter is still seen as rounded. Students are likely

FIGURE 26

The widest diameter of a circle, seen in perspective, is where the lines of vision are tangent to the circle's circumference.

to show this rapid curve as a point, and to avoid this error, special attention should be given to the curve as it approaches this change of direction.

Because so many cylindrical objects have thickness which can be represented only by concentric circles seen in perspective, the student should observe certain principles governing the relationship of one circle within another where both have the same center. Draw on a piece of cardboard, with the use of a compass, a set of three circles having varying diameters and the same center. This will resemble a target (Figure 25). Repeat the experiment with the dinner plate, tipping the cardboard so that the circles become foreshortened. It will be observed that the distance between the circles remains true only along the axis of the long diameter. The distances between the circles gradually diminish as the circles reach the axis of the short diameter. Furthermore, the distance between the circles on the short diameter will appear greater on the side nearest the eye, and this is because of a foreshortening of the short diameter.

The true center of a circle when seen in perspective is slightly beyond the line of the long diameter, and through the true center passes the true diameter, which consequently appears shorter than the long diameter of the ellipse. This is caused by the lines of sight from the eye falling tangent to the sides of the circle, as shown in Figure 26, so

FIGURE 25
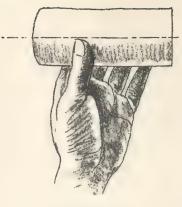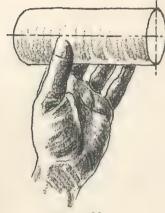
FIGURE 27

FIGURE 28
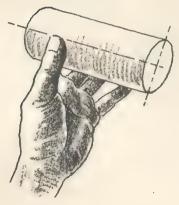
FIGURE 29

that the extreme width of the circle in perspective appears nearer to the eye than the true diameter of the circle.

In Figure 25, three circles are shown having the same center. The widest diameter on the larger circle appears nearer the eye than the widest diameter on the smaller circle. This is because the points of tangency, where the lines of sight touch the circles, fall farther back on the smaller than on

the larger. Since the inner circle is smaller, the eye can see farther around it.
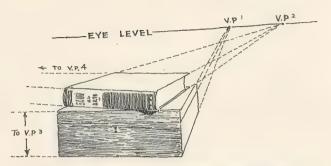
So far we have studied the circle held horizontally where the axis of the long diameter was parallel with the eye level. To apply these principles in drawing circular objects, such as clocks, and objects based on cylindrical form, we must observe what happens to the axis of the long diameter when it is viewed from different positions.

When a cylinder is held so that its axis is on a level with the eye (Figure 27), and the circular face of one end is foreshortened to appear as a single line, this face is perpendicular to the axis. Turn the cylinder slightly, keeping the axis horizontal, but permitting some portion of the end face to be seen (Figure 28). The long diameter of this end appears vertical and at right angles to the center axis of the cylinder. Now tip the cylinder so that the center axis is no longer horizontal (Figure 29). The long diameter of the end face continues to appear at right angles to the cylinder's axis, changing its position to keep this relationship. This principle governs the construction of the arch as seen in perspective when viewed from below or above the line of the axis of the "cylinder," since the arch may be regarded as one half of the cylinder's circular face. When arches are thought of as half cylinders, and their openings as half circles, the student will find the drawing of them simplified. At a point where the axis of the cylinder meets the face of the arch, a vertical line can be drawn to the upper curve of the arch, which will determine its center. The location of this center will indicate the position of the keystone, if the arch is rounded, or the meeting of the sides, if the arch is pointed.
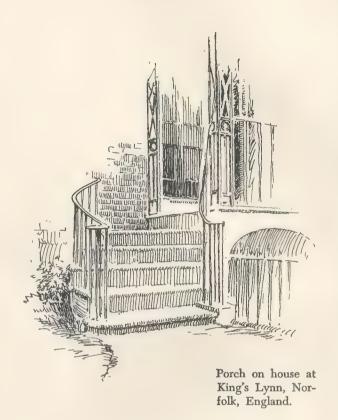
Wheels and their axles also are drawn with the use of this principle, and the correct construction of drawings of many kinds of machinery depends upon the establishing of the various long diameters at right angles to the center axis of the cylindrical form.
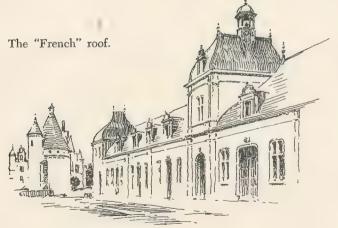
With an understanding of the principles which govern the appearance of the cube and the cylinder, and their faces—the square and the circle—when viewed in perspective, the student will possess a valuable knowledge to aid him in becoming a good draftsman. These principles pertain to representa-

tions in line as practiced in freehand drawing. Other considerations which are usually included in the study of perspective, such as the casting of shadows and the conditions affecting the correct indication of reflections, will be found in the following section.

The Problem of the Curving Stairway

The principle that governs the use of different vanishing points on the same eye level applies to a curving stairway. Consider each step a rectangular plinth set at a different angle.

Porch on house at King's Lynn, Norfolk, England.

The "French" roof.
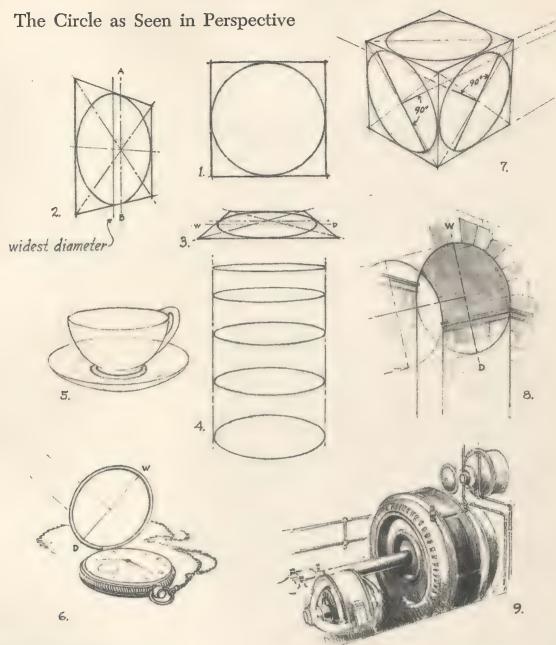
Chenonceaux

To construct the French style of steep hipped roof, use the "diagonal" method to locate the center of the ridge, then build on that.

24

The Circle as Seen in Perspective

widest diameter

1. The square and the circle.

2. As seen vertically, turned slightly to the side. Note that the "true" center is determined by diagonal lines drawn from the corners of the square. This "true" diameter AB is shorter than the widest diameter of the circle as seen in perspective.

3. As seen horizontally, turned considerably away from the line of sight.

4. The circle shown horizontally appears in perspective as an ellipse, with the relationship between the long and short diameters changing as it is viewed in different positions below the level of the eye.

5. When constructing an ellipse, draw it completely in outline, erasing undesired portions of the line afterward.

6. WD stands for the widest diameter which is perpendicular to the axis of a cylinder of which the circle is an end. Refer to Figure 29.

7. The cube presents three circles. The widest diameter bears no relationship to the "diagonals" of the square, but is perpendicular to a line which converges with the edges of the cube.

8. The construction of an arch.

9. The drawing of machinery requires a knowledge of the principle of the circle in perspective.
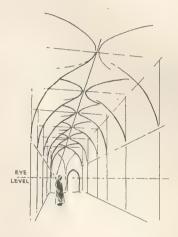
The Circle as Seen in Perspective
HOW TO DRAW THE FAN VAULTING IN A GOTHIC CATHEDRAL

Reproduced from Composition and Rendering, *by A. Thornton Bishop; John Wiley and Sons, publishers.*

THIS DRAWING is based on a single vanishing point located just behind the figure on a level with his shoulder. Construct a center line along the length of the cloisters and cross this with lines drawn perpendicularly from the centers of the supporting columns on the sides. Construct the circles in perspective, using these cross lines as diameters. The circles should be tangent along the center line of the cloister ceiling. Then draw the curved sides of the vaulting from the perimeter of the circles to the supporting column for each unit, and add the ornamentation.

26

THE WHEELS and their axles present the principle on which all circles seen in perspective are drawn.

National Museum
Verona

Colosseum, Rome

27

The Study of Light and Shade

COMBINATIONS OF lines produce the effect of a pattern, and this introduces the next element in drawing—variations in intensity of light. This element, commonly referred to as "light and shade" in drawing, is the creation of areas differing in their degree between the extremes of black and white. The term "tone" is used frequently to define any single degree of this gradation. "Tonal scale" implies the range of degrees employed in a single picture. A picture is said to be a study in dark and light when the exclusive employment of one color is used, varied only by the tints and shades of different degrees of light. Arthur W. Dow, a prominent art teacher during the early part of this century, defined "dark, light" as the quantity of light reflected.

Appreciation of light and shade and the ability to create interesting patterns with it may be attained by practice through progressive exercises. Arrangements of areas of dark and light tones produce a pattern regardless of recognizable natural forms. When such an arrangement suggests an effect characteristic of nature it is considered "picturesque." Striking effects are obtained through the use of a minimum of tones arranged to produce severe contrasts. The effectiveness of such arrangements, however, is not a measure of their value as art.

The principles governing the use of light and shade which can be imparted to a student through the pages of a book are few. The greater portion of his knowledge will be acquired through observation and careful analysis in the everyday laboratory of light. The second verse of Genesis makes a natural beginning for such a study when "the earth was without form, and void; and darkness was upon the face of the deep." Substances which are not self-luminous are not visible without the existence of light. The more light, the more easily the object is seen. That statement sounds trite, but its application is too often forgotten by students who indicate the most meticulous detail in drawings where the low key (darkness) in the tonal scale suggests a low intensity of light. The relation between the degree of light and the degree of definition of objects is a basic principle the student should observe scrupulously. Much benefit will result from the study of a simple geometric solid so placed as to be illuminated by a single source of light.

FIGURE 30

A sphere illuminated by one source of light.

Observe the effect of light as it falls on the sphere in the accompanying illustration (Figure 30). We see things to the degree that light rays are reflected from them. When a light wave falls upon an object it is reflected in different directions which are controlled by the different surfaces of the object and their angles. If the light falls on the object so that the reflection is in the direction of the eye, the reflection seems intense. When it obliterates the detail on the object, the effect is known as a high light. As the light falls on a surface obliquely so that the reflected rays are directed away from the eye, the surface appears illumined with a lower intensity of light.

Polished surfaces do not scatter the rays of light when they reflect them, but permit them to rebound in a degree of intensity approaching the concentration of rays as they come from the original source. By the same token, coarser textures having rough surfaces scatter the rays of light in all directions, sending fewer of them directly to the eye, thus giving to the surface a darker appearance.

A Greek vase is presented as a worthy subject for a student's study (Figure 31). It is one of a splendid collection in the Metropolitan Museum of Art, and is recommended as an object for the student to use in his drawing exercises. If the vase is regarded from a tonal point of view, the light

FIGURE 31

Greek amphora, 550–500 B.C.
Courtesy of The Metropolitan Museum of Art

glazed surfaces reflect more light than the colored material of which the figures and the ornament are made. Likewise, as the surface of the vase recedes from the eye at the base, it appears darker, and on the right, the side of the vase is darkened from the base to the shoulder, and on the neck.

Along the extreme right edge, the contour becomes less definite and noticeably lighter. This is caused by rays reflected from a second source—the light background, which reflects light from the orig-

inal source onto the shaded portions of the vase. Light from a second source in a lower intensity than illumines the object from a chief source introduces interesting effects and helps to establish the appearance of solidity.

Experiments in Light and Shade

An interesting approach to the study of light and shade is through the blackboard of the typical

29

schoolroom. Aside from the fact that chalk erases easily, the choice of a black background for schoolroom use was made because white markings are more visible than black markings of a corresponding size would be on a white background. The principle governing reflection of light rays is forcibly applied in this instance, because a white background would reflect its strong concentration of light rays on the retina of a student's eye without profit, the black markings absorbing the rays. Though the contrast of the black markings on the white background causes them to be distinguishable, the strain on the eye is avoided when the conditions are reversed. White objects against dark backgrounds appear more brilliant because the light rays they reflect on the eye define them sharply. This principle is applied widely in the field of merchandising.

Experiments in "nature's way" of lighting objects will help the student grasp these fundamental truths. White chalk and a sheet of black paper are all that is needed as materials for this exercise (Figure 32). As in nature, objects are not visible until light rays fall upon them; therefore, the student may regard the chalk as light and develop the lighted portions of the object, leaving what he does not see in the darkness of the paper background. Areas partially lighted can be represented in the drawing by applying the chalk lightly, using the finger to soften the effect where the gradation passes imperceptibly into darkness. The most forceful use of the chalk should be ap-
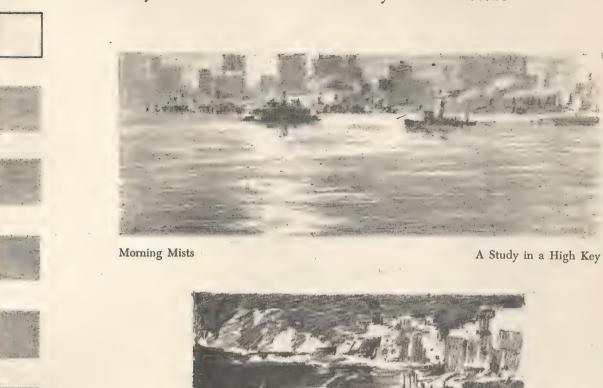
FIGURE 32

An ornamented porcelain pitcher drawn on black paper with white chalk and high-lighted with white water color.

Intensity of Tone Establishes the Key of the Picture

Morning Mists   A Study in a High Key

A Study in a Medium Key

A Tone Scale

Italian Moonlight   A Study in a Low Key

Descent from the Cross   Rubens

The Bent Tree   Corot

Portrait of a Sculptor   Del Sarto

Man with a Glove   Titian

Mona Lisa   Da Vinci

The Morning Walk   Gainsborough

Studies of
"Old Masters" to show
pattern arrangement
in light and shade.

The Concert   Ter Borch

plied where the surfaces of the object reflect the most illumination.

Time devoted to these experiments by the student will be well spent because all that he learns at this stage will be put to use in the study of composition to follow. Joseph Cummings Chase recalls that in the composition classes of Professor Dow the pupils were taught to trace the masses of dark and light from small prints of many old-master paintings, making all the darks a solid black, and all the lights white. This study dis-

closed the masters' schemes of dark and light. "It was exciting," says Mr. Chase, "to discover how many of the great paintings are amazingly compelling in just this rendition of black and white masses, which frequently disclosed no indications of the figures included in the paintings."

Working with white paper — the method most prevalent with artists — the procedure is reversed. Darks are applied to indicate the shades and shadows, the white paper being left to represent the lighted portions of the object. The student can

*The same paintings
reduced to two values—
black and white*

practice in this method with the use of charcoal, thin sticks of which are prepared for artists and sold at art-supply stores, or with soft pencils (2B to 6B grades), lithographic crayon, carbon pencils, black water-color paint. Oil colors are not advised for the student at this stage of his progress.

In the nature of a review of the ground covered up to this time, it would be profitable for the student to make a drawing of the Greek vase that appears on page 29. Beginning with the "proportion finder," the cardboard with the square

opening, hold it at a distance from the eye just sufficient to make both of its sides touch the extreme sides of the vase, and with the bottom of the square at the bottom of the vase. It can be seen that the top of the square crosses the vase slightly below the junction of the arms (Figure 33). Now, if the opening is raised so that the top of the square touches the top of the vase, the bottom of the square will cross the vase approximately at the foot of the figures. The student will find it helpful to draw the square first, then record

33

The Drawing of a Greek Vase

FIGURE 33

1st Square

2d Square
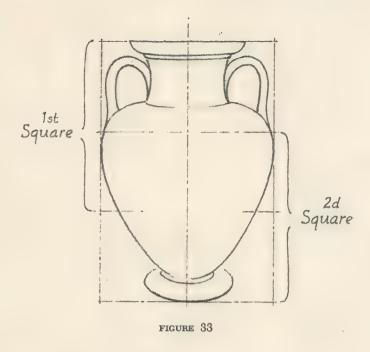
FIGURE 34
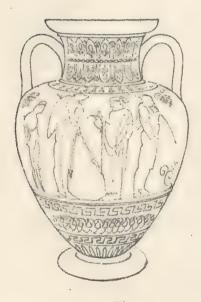
FIGURE 35

FIGURE 36

these observations, noting the width of the top and the base, and the contour of the vase in relation to the sides of the square opening.

Objects that are symmetrical, such as the vase, are more easily drawn if the student imagines them bisected by a vertical line. The vertical line may be lightly indicated on the drawing, to aid in making both sides of the base alike. Distance

from the line to any portion of one contour can be easily duplicated for the opposite side.

In drawing the base and the ornamental bands which pass horizontally around the vase, the student should apply what he has learned concerning the appearance of a circle in perspective. At the top of the vase, the circle is viewed from the side on a level with the eye and appears as a straight
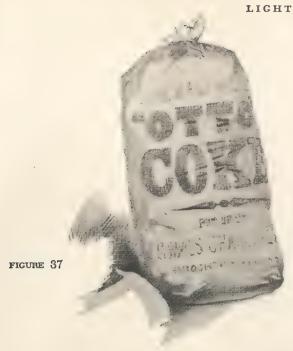
FIGURE 38

The three pencil drawings on this page are the work of Harold Eugene Brooks, an illustrator and art teacher, who lived in Massachusetts and died almost thirty years ago. The care with which he recorded the tonal pattern he found on the simplest of household objects furnishes a model of procedure that unfortunately seems wanting in the attitude of present-day students. It is apparent that Mr. Brooks felt a certain affection for the things he drew.

FIGURE 39

Patterns of tone are confined to definite areas, such as in the creases in the shoes, which are marked by a sharp edge. Careful observation of each detail is the means by which great draftsmen train themselves.

horizontal line. Below this level, all horizontal markings take on an increasing degree of curvature. The curve is sharpest at the ends of the ellipse where the lines on the vase pass around its surface and out of sight. It will be helpful to draw the complete ellipse in each instance, for by this method the correctness of the ellipse can be judged, sketching faintly the "unseen half," and erasing this segment when it has served its purpose (Figure 34).

When drawing the figures on the center portion of the vase, the student should observe how the roundness of the vase's surface causes the heads of the figures to appear foreshortened and slightly distorted (Figure 35).

The vase drawn solely with the use of lines lacks the appearance of solidity and the variety of interest contained in the vase itself. When tone is added, the character and the texture of the original are more nearly approximated. The roundness of the vase is suggested by the direction of the lines used to indicate the tonal values (Figure 36).

The use of line alone, like a single thread of melody from a musical instrument, defines a theme but lacks the variety of expression necessary to create an interesting work of art. Tone helps to develop a pleasing harmony and effects a truer and more interesting view of the object. See Figures 37, 38, and 39.

Determining the Shadow

For the purpose of drawing, light falls into two classifications — that which comes from the sun, and that which is produced by artificial means. Rays from the sun fall upon the earth so as to give the impression of being parallel, whereas the rays of light from some local source radiate. This difference has a direct bearing on the shadows which are created by each source of light.

When an object illumined by the sun casts its shadow on a flat surface, any point along the contour of the object where the light rays are tangent will appear at the corresponding place in its shadow. When the surface upon which the shadow falls receives the sun's rays obliquely, the image of the object is lengthened, and the nearer the surface comes to being perpendicular to the direction of the source of light the more nearly will the shadow appear to be the same size as the object (Figure 40).

Parallel rays will project shadows of all objects in a single grouping in the same direction, and the angle of light will be the same. If no perspective were involved, edges of objects that are parallel should appear parallel in the shadow. However, when perspective is involved, the edge of the shadow and the edge of the object it parallels will converge to the same vanishing point. When determining the shadow of an object, project onto the receiving surface, by means of par-

allel lines, the contour of those portions of the object which are obstructing the sun's rays (Figure 41).

The student will find it helpful to study the shadows of objects he sees during the course of a day, and he should observe how the angle of light governs the shape of the shadow, and also how the nature of the receiving surface affects the shadow's contour.

Rays radiating from an artificial light, such as a street lamp, table lamp, wall sconce, or a candle, spread the shape of the object's shadow so that its image no longer conforms in proportion to the original. This condition varies with the distance the object is from the source of light. If the source of light is located so that a vertical line can be drawn from it to the ground or floor, this point of contact will establish a center of radiation to be used for projecting the shadows of the vertical objects in the drawing (Figure 42). Where these lines of radiation intersect the lines of radiation streaming from the source of light above, the shape of the contour of the object is determined. If the student is intent in seeking out further information concerning the nature of shadows created by artificial light, a bridge lamp and some furniture will provide the means for a score of experiments. The use of straight lines projected
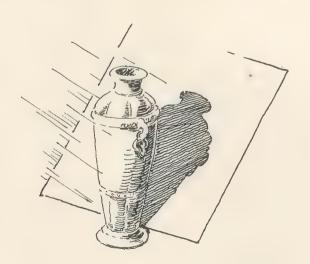
FIGURE 40

FIGURE 41

FIGURE 42

Projecting the shadow caused by an
artificial light.

from the source of light to the edge of the ob-
ject causing the shadow, and continued to where
they fall on the surface receiving the shadow, com-
prises the only principle with which the student
need be concerned.

Casting Shadows on Architectural Elevations

When determining shadows in drawings of
architectural subjects, it has long been the prac-
tice to regard the source of light as falling at an
angle of 45 degrees from above, and 45 degrees
from the left side. A plan and an elevation of the
subject are necessary, both in the same scale and
with the elevation directly above the plan on the
same drawing. To draw the shadows, it is neces-
sary to make lines at 45 degrees from all points of
the plan that can cast shadows to the plane upon
which the shadows would fall. At these points per-
pendicular lines are erected to meet lines drawn at
45 degrees from corresponding points on the eleva-
tion. The intersection of these points will deter-
mine the contour of the shadow. Architectural
draftsmen desiring exercises in this work are
recommended to study Vignola's *Five Orders of
Architecture,* which contains complete information
on this subject.
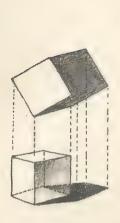
The purpose of stating this principle which per-
tains so specifically to architectural drawing is to
aid students interested in sketching out-of-doors
to determine the angle of light most likely to pro-
duce pleasing effects in the representation of build-
ings. Design of architectural exteriors has been
effected by a study of the relationship of light and
shadow. The extent of projections, such as cor-
nices, and the depth of doorways, arches, and
windows, are the result of the angle of light cast-
ing the shadow. In the course of the sun's arc
across the heavens, the average angle for the
projection of the rays was adjudged 45 degrees
by the ancients, and upon this angle the extent of
the projections and of the recesses in classic archi-
tecture was determined. Students indicating shad-
ow on buildings in their drawings may profit by
this suggestion.

Make Chalk Studies
of the Family

MAKING PORTRAIT studies with white chalk on black paper will prove to be interesting and helpful to the student. Under the lighting conditions in the average home at night, where lamps of under 100 watts are common, the planes of the face are simplified, the high lights appear sharp, and striking effects offer unusual opportunities for this kind of work. To draw with light is more fascinating than to draw with black, and the student can catch likenesses if he observes carefully the areas of light and half light which form the planes of the face of his subject.

38
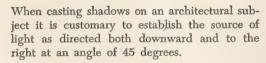
Shadows

Projecting the shadow from the plan to the perspective is a way to effect correctness.

THE SHADOWS OF THE TUSCAN ARCADE WITH PEDESTAL

When casting shadows on an architectural subject it is customary to establish the source of light as directed both downward and to the right at an angle of 45 degrees.

When the shadow falls on a vertical plane at right angles to source of light.

Shadows cast from an artificial light are made by continuing the lines of the radiating rays from the light along the edge of all portions of the object casting a shadow.

Reflections

IF A CLOCK IS placed squarely on a table so that its back is parallel to a mirror behind it, it will be observed that the edges of the clock are continued in the mirror without any change in direction. The intensity of tone in the reflection will also be the same as that of the object. It may be assumed, therefore, that when the reflecting surface is perpendicular to the edges of an object, the lines of perspective of both the object and its reflection will converge to the same vanishing point, and that the light conditions affecting the object will be repeated faithfully in the reflecting surface. When straight lines change their direction at the reflecting surface, it may be assumed that the mirror is not at right angles to the edges of the object.

If a vase stands on a tray with a mirrored surface, the reflection will appear as though it were the vase inverted, with the bottom supporting the object directly above it. The reflection will not appear in the same shape as the original object, because in the latter we can see into the vase, whereas in its reflection the inside is invisible. Also, the base of the image is covered and hidden from view by the bottom of the original. Furthermore, the various points of the object in reflection fall directly beneath their corresponding place in the true object. It is evident that when objects are reflected on a horizontal surface, the image is vertically under its original. To indicate the reflections to one side of the object is to suggest that the reflecting surface is not horizontal.
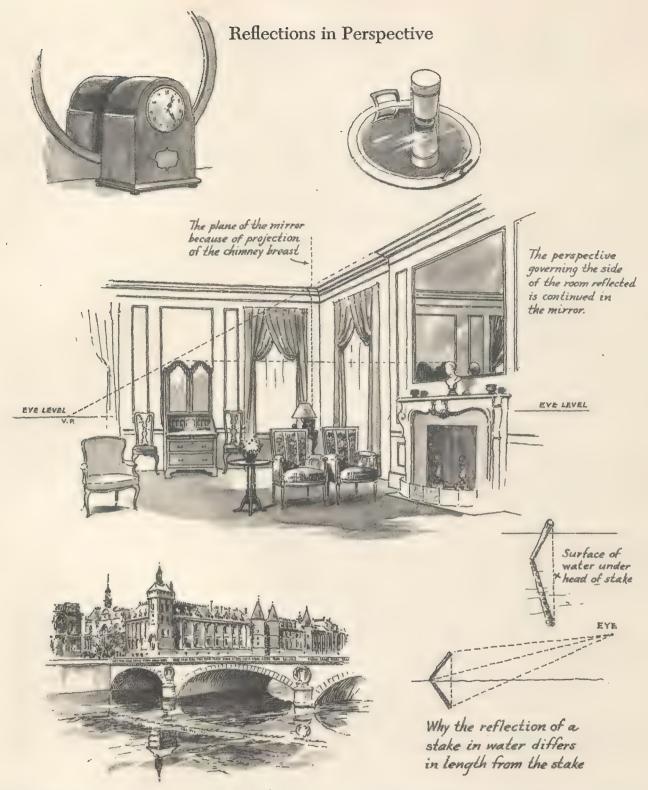
When an object, like a stake, is thrust into water and is not vertical or perpendicular to the reflecting surface, the foreshortening will make the reflection appear a different length than the original. For instance, since a stake will produce a reflection like itself in reverse, each point in the reflection will appear beneath the same point in the original. However, if the stake is inclined toward the eye, foreshortening will make the real stake appear shorter than its actual length, but longer than its actual length in its reflection. If the top of the stake is inclined away from the eye, the reverse effect is apparent; foreshortening occurs on the surface of the water, making the actual stake appear longer than its reflection.

When the object is separated from the reflecting surface, the reflection is determined by continuing the plane of the reflecting surface, in an imaginary way, to meet the vertical plane of the object. In the sketch of the Palais de Justice buildings reflected in the Seine, the place where the water line, if extended, would meet the face of the front tower, if that were also extended (downward), can be approximated. This intersection would occur between the top of the stone pier of the bridge and the circular medallion on the face of the bridge beneath the nearest tower. At this point, like the vase on the mirrored tray, the tower, including the space beneath the visible portions of the tower, is reversed. However, in the reflection the bridge takes up a large section of the reflecting surface where the tower would otherwise appear, so that only the upper part of the building is seen reflected in the river. As with the clock and the mirror, the horizontal edges of the building in both the object and its image converge to the same vanishing points.

When the reflecting surface is on a vertical plane, the same method is followed. In the drawing of the living room, the top of the secretary is shown in the overmantel mirror. This mirror is on a chimney breast which projects a few inches out from the main wall of the room. To find the position of the mirrored surface on the back wall of the room where the calculation should take place, the chimney breast is projected in perspective, as shown by the dotted lines. The reflection is estimated from this line, allowance being made for the foreshortening because the room is shown in perspective and the back wall recedes slightly from the eye. As in the other instances, the overmantel is shown perpendicular to the edges of the room and the secretary, accounting for the continuation of the room in the reflection without change of angle. When the edges of an object are reflected by a mirrored surface at an angle, the degree of angle is duplicated in the image.

When the reflecting surface is not smooth, as the

Reflections in Perspective

The plane of the mirror because of projection of the chimney breast

The perspective governing the side of the room reflected is continued in the mirror.

EYE LEVEL
V. P.

EYE LEVEL

Surface of water under head of stake

EYE

Why the reflection of a stake in water differs in length from the stake

rippled surface of water, the image is likely to appear lengthened. This is because each successive ripple creates a reflecting surface, causing parts of the objects to be seen in reflection for a considerable distance. To study this condition, the student need only observe the shape of the moon on the surface of a lake when the water is disturbed.

Design—the Essence of Art

WHEN WE DESIGN, we are creating by means of relationships an article or object to serve a purpose. With an engineer these relationships are between the materials he uses and the forces exerted by them against the counterforces of nature. The architect and sculptor consider the relationships of mass to space, the sizes and shapes of the solids, and between the lights and shadows formed by these solids. The painter considers these also, and adds to them his consideration of the relationships of varying textures and colors. Artists frequently acquire the ability to study a problem from many points of view, and it is not uncommon for them to regard all relationships in the light of the principles of good design.

For a design to be successful, it must fulfill the purpose for which it was conceived. This does not imply that its function is solely utilitarian; its purpose also may be to express a thought. A kitchen utensil, for instance, may be designed to meet all the conditions and conveniences of the one to use it, and may express nothing but its ugliness. Its usefulness as a piece of culinary equipment is a logical necessity, but other qualities which seem intangible are missed, nevertheless, by the most unsuspecting people. These other qualities are recognized with a sense of pleasure when they are expressed in utensils equally as useful but fashioned with some regard to the grace of the curve of their sides and the relationship of their height to width.

The elements of good design are part of our instinct, having been developed and matured in the emotional experiences of our lives. We respond to the effect of a sunset, or the harmonies of music, and we think of these as beautiful because our eyes have beheld many sunsets, and our ears have heard many harmonies, and some basic ingredient in these things has nurtured our judgment. We respond to these basic ingredients instinctively when we judge color or music.

Patterns created by the formation of clouds in their myriad combinations are pleasing; arrangements of wild flowers in the fields and the undulating contours of the distant hills are always interesting; and the eddies of foam rushing in among the rocks along the shore are exciting, and we watch these evidences of nature's beauty without questioning why we feel this way about them. All these patterns have the basic ingredients of good design, and as we absorb each succeeding impression our judgment grows and our imagination becomes more active. When we look at an object, we react to the impressions we have acquired throughout the formative phases of our lives.

To design successfully, it is necessary to study and analyze these basic ingredients which produce such a singular effect upon our emotions. We must try to comprehend what we see in order that we may be conscious of what is usually felt only subconsciously. This knowledge may be regarded as the mainspring of good design, because the use of these basic ingredients in design can be expected to invoke a responsiveness in the observer.

Nature's Patterns

The patterns created by the elements of nature may be grouped in three general classes — those that are symmetrical, the rhythmical, and the abstract. The first of these classes embraces most of plant life and animal life; the symmetrical development of the human body is probably the most prominent example. Rhythmical patterns are found in the repetitive arrangement of trees: the growth of needles on the branches of the pine; the shell forms of the sea, and the cadence of the waves with their divided currents as they break along the beach; and the flames of fire. The orderly arrangement of the spiral phyllotaxis on the head of the sunflower and on the pine cone produces

a combination of the symmetrical and rhythmical patterns in nature. The gaseous formations of clouds, steam, and smoke compose themselves into abstract shapes which change constantly but present at all times arrangements that are unique and interesting. To watch the thin veil of smoke from a cigarette as it rises listlessly in a room where the air currents are imperceptible will yield moments of intense fascination (Figure 43). The shapes of steam emitted in bursts from a passing tugboat on the river as they are scattered by the wind suggest a variety of ghostly objects. There is nothing in life which does not have its lesson for the student who observes keenly.

An outstanding characteristic common to all of nature's patterns is the relative proportion of areas created by the division of the different elements. Between the trees the spaces differ, between the waves the patterns of foam vary in size and shape, and in the banks of clouds, areas in shadow contrast pleasingly with the portions tipped with sunlight. Contrast in size between the areas, and contrasting contours of shapes, offer other characteristics for study (Figure 44). As we become conscious of these manifestations of nature which are elements producing beauty, we will be better interpreters of beauty, better trained practitioners of beauty's laws.

Though beauty seems an abstract thing, it is comprised of elements with which we are familiar, and through these our approach to an understand-

FIGURE 43

Cigarette smoke forms interesting and ever-changing patterns.

FIGURE 44

The shape of the leaves and the shape of the spaces between them differ.

The leaves form a junction with the center stem which dominates the arrangement.

FIGURE 45

In flower forms, the petals radiate from a central point.
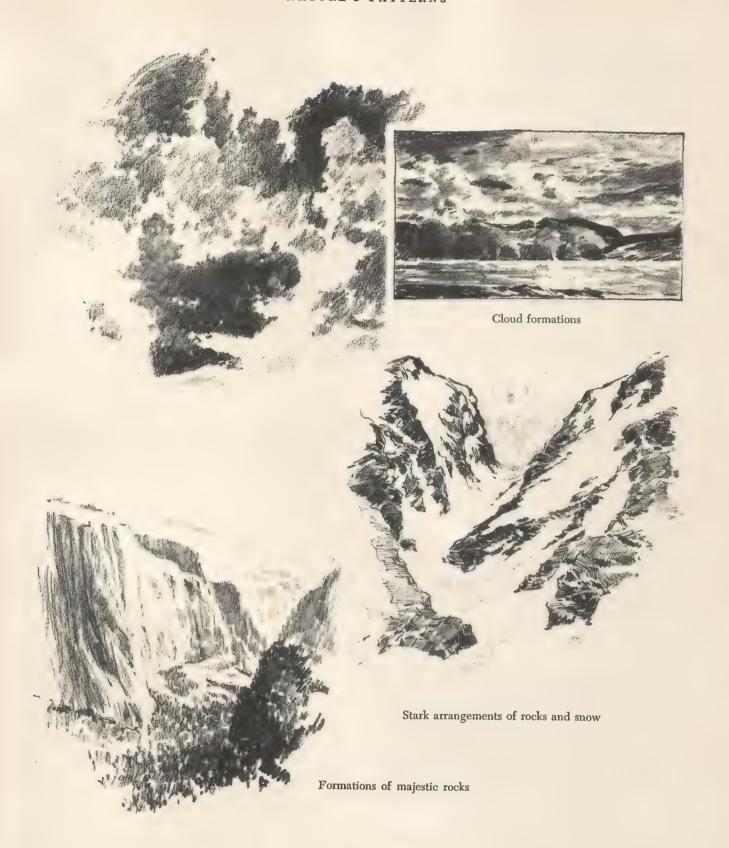
The stalks of blossoms radiate from a central root.

Nature's Patterns

Light and shade

Sea foam

Cloud formations

Stark arrangements of rocks and snow

Formations of majestic rocks

ing of beauty's laws is made easier. Beauty is comprised of harmonies, and the harmonies result from arrangement — good design.* The assembling of the various elements is called composition, and a successful composition is the result of intelligent planning. A piece of work is not necessarily good because it complies with the laws of composition, but it is quite certain to be faulty if it contradicts them. More than technical proficiency is required to produce a good design. The expression of an idea is its reason for being, and in this the personality of the artist plays the foremost role.

Design has always served as a historian — the most faithful reporter of the spiritual reactions of people. Styles of design differ like documents which depict the social and religious trends, even the human nature, of a period. The master designers of the past have been faithful to their calling, and have recorded the spirit of their times with sincerity and truth. These two qualities are the primal requirements of art.

A trend, unfortunate in America, is the attention we pay to being original, much to the detriment of a student's development, which should be directed toward the attaining of actual worth and artistic strength. In an attempt to answer the wild cry for a new style, or change a borrowed one, the student is coaxed from the serious technical study that will contribute rugged health to his capacities for producing creative work of permanent value. If the artist works in the style of his times, and gives freshness to the thoughts expressed in the style, he will contribute much through his designs, and the world will be spared the rude shock of an expression it finds difficult to understand.

We should not ignore the principles that time has evolved, and though we shun the practice of repeating old designs, we should try to make the best of them our own by applying the principles which made them enduring to designs suited to contemporary living. Change is normal and healthful when it is brought about through the adaptation of fine relationships exemplified in preceding styles. Transitions will prosper when they are nourished by the inspiration of past craftsmen blended with an inspiration emanating from the

* *Composition and Rendering,* by A. Thornton Bishop.

needs of present times, and wrought into a design through the particular inspiration of the present-day artist. To study well the purpose for which the design is being made may be considered a correct approach to the problem. And it is well to remember that past masters had to meet the demands of their day, and they did it splendidly.

Developing Creative Ability

Up to this stage the student's study has been directed to recording certain facts of nature. It has been primarily a scientific exercise. Research by observing and experimenting will prove invaluable when the student applies his knowledge to arrangements of his own creation. However, there is more to the study of art than confining oneself to the reproduction of facsimiles of nature. The development of creative ability is probably the most important of an art student's objectives. This ability gives him the power to design.

Creative ability cannot be developed by copying the arrangements of others, but rather through adapting existing forms in a new way and for a new purpose. Study should begin with arrangements of dark and light areas. Designing in dark and light embraces the fields of both decorative and solid form. In the decorative (two-dimensional) field with which we are concerned in the present study, designs are composed for limited and unlimited areas. Limited areas include spaces frequently inclosed by a border, such as rugs, posters, advertisements, title pages, panels, and spaces in a decorative scheme having regular or irregular shape that are designated for treatment with ornament. Unlimited areas require the treatment of repeated patterns, as in wallpapers, textiles, carpets, and linoleums.
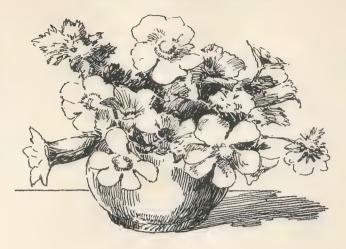
Patterns are devised by adapting geometric shapes, or by using natural forms in a conventionalized way. The square, rectangle, triangle, hexagon, octagon, and circle are frequently employed for the basis of not only abstract shapes but natural forms as well. Patterns created by nature offer abundant opportunities for the designer. Not only plant and animal life, but sea foam, cloud arrangements, snowflakes, and fire supply a rich source of shapes for decorative use.
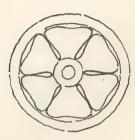
To conventionalize is to simplify, retaining the
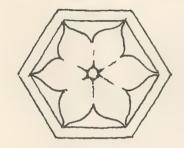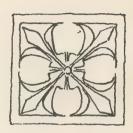
FIGURE 46

Select from an assortment of flowers certain blossoms suitable for study, then observe what geometric pattern they suggest. Some are basically circular, others hexagonal. Flowers bearing four petals adapt themselves readily to the square. Practice many arrangements of this kind.
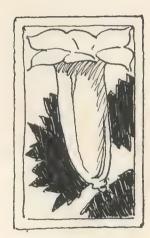
general characteristics of the original form, but omitting irrelevant details. This may be done by keeping the informal arrangement of the natural form or by treating it in a formal way based on some geometric pattern. For instance, forms like daisies, which have petals radiating from a center, adapt themselves readily to circular arrangements (Figure 45). Radiation is a system of growth in plant and insect life, which accounts for its presence in the majority of decorative patterns.

Another characteristic of plant life is the perfection of balance suggested between its radiating parts, even in its natural and informal arrangements. Some examples are symmetrical. Objects are symmetrical when both sides of a central axis in a design are alike. Designs may be composed in perfect balance and not be necessarily symmetrical, but all things which are symmetrical are in a state of balance. Symmetry is a scheme of arrangement in design which produces the effect of formality, and it is likely to result in

TONE PLACING
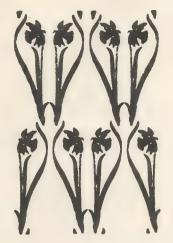
static severity if a student employs an angular theme. Where the idea for a design is based on radiation, the student will enjoy a wider latitude in his choice of material if he achieves balance with the use of shapes unlike in character.

The student will find, when designing in patterns of light and dark, that the line structure underlies every tonal scheme. Lines which he learned are used to divide areas now serve as boundaries for areas of varying tones. The most direct study for tone placing begins with arrangements in two values — black and white (Figure 46). One may begin by fashioning natural forms in small geometric shapes to make decorative spots, and alternating the exercise by reversing the design, that is, making what was black in one white in the other. If the student imagines that little can be done with only flat areas of black against a white background, he should acquaint himself with the exquisite inlays of black and white marble that cover the

47

Units placed in vertical rows.

Units placed in horizontal rows.

Units placed in oblique rows.
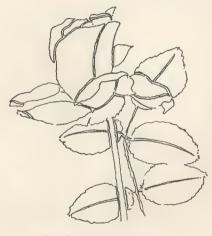
FIGURE 47

Reproduced from Creative Design, *by Joseph Cummings Chase; John Wiley and Sons*

floors of Italian churches, as well as with woven and printed textiles, inlaid boxes, and many a border drawn to ornament a printed page. After choosing some arrangement in line form, make several tracings of it, darkening certain spaces in one, and different spaces in others.

As an exercise in designing for unlimited areas, the student should draw some natural form in a conventionalized treatment and, using it as a unit, repeat the design in an orderly alignment, following horizontal, then vertical, and oblique directions (Figure 47). Flowers, offering an infinite

A rose drawn with "naturalistic" effect.

The forms are outlined.

The tones are simplified, and the shapes are restudied.

FIGURE 48

This is the method used to conventionalize a natural form and adapt it for a design. Practice this procedure with other flower forms, to develop your power for effective arrangements.

Further liberties have been taken with the rose. It is now used as the center of a design. The general form is suitable for adaptation in a circle or a pentagon.

48

variety of forms, are excellent subjects for a student's earliest efforts. Leaves, stems, and petals or background may be rendered either black or white, according to the student's choice (Figure 48).

Designs composed within the square, the hexagon, and the circle need not be founded on symmetrical or axial arrangements (Figure 49), but may include formal and informal treatments of landscapes (Figure 50), marine scenes (Figure 51), or objects where the lines divide the geometric form into interesting interior shapes (Figure 52). Dutch tiles illustrate the use of the square for pictorial purposes; circles and octagons were used as frames for paintings and sculptured panels by Italian artists.

Ability to design things that are useful and beautiful is the most valuable asset an artist can possess. Of these two objectives, the first deserves much thoughtful attention. Consideration should be shown in the selection of a motif and its use in the design to the purpose for which the work is being done, so that it will be appropriate. Flower forms serve nicely as wallpaper patterns and for

FIGURE 49

Axial arrangement on a Greek entablature.

dress fabrics, perfume advertisements, and box wraps for millinery, but they would be decidedly inappropriate for the merchandising of men's wear and foodstuffs. Objects associated with the field of work for which the design is being made can be used symbolically, and are usually appropriate. A sense of fitness suggests what character of design is most suitably employed with a certain material selected for ornamental treatment. A pattern that might be suitable for a silk dress fabric would not be recommended for brocade, which is woven with a raised design.

FIGURE 50

A landscape reduced to its simplest elements.

FIGURE 51

Pattern created by a rolling surf is simplified.
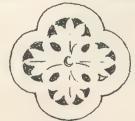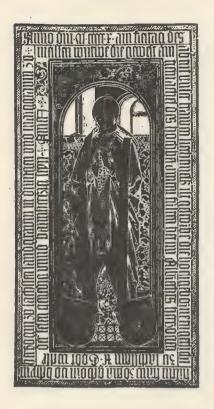
FIGURE 52
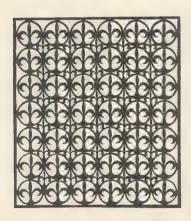
A pierced stone design in
an Italian church.

49
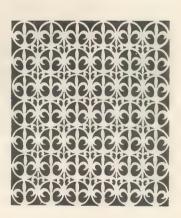
Designs for Limited and Unlimited Areas

THE PANEL above, which is shown with the areas that are black in one as white in the other, is a monumental brass plate engraved by Albrecht Dürer about 1510. The center panel below dates from 1597-1608. These memorials are particularly helpful to a student studying effective massing of dark and light. The grille patterns on either side illustrate the use of a motif in an unlimited area. It is interesting to see how the effect differs when the motif is rendered dark on a white background and white on a black background.
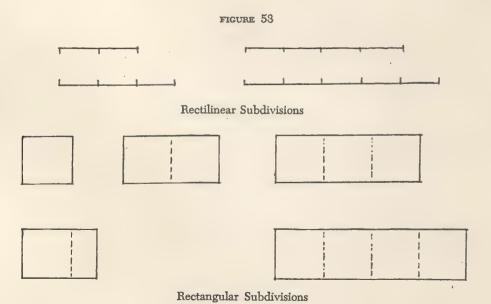
The Rectangle as an Area for Design

EFFORTS HAVE been made to discover formulae that could be applied as a guide to establish a set of perfect proportions for any work of art. Paintings and works of sculpture and architecture have been analyzed in an effort to prove the existence of some system. In W. W. Lloyd's *Memoir on the Systems of Proportion*, published with Cockerill's *Temples of Aegina and Bassae*, we are told that all the architectural quantities of proportion were estimated by the Greeks chiefly in two ways: by rectilinear proportions (divisions of one continuous straight line), and by rectangular proportions (comparison of length and breadth, and height and width, at right angles) (Figure 53).

Relationship between the lines of varying length was recognized by ratios, such as 1 : 2 or 1 : 3 and .2 : 3, 3 : 5, etc. It is evident that as the values of the numbers increase, the ratio becomes less distinguishable to the eye. The same observation might be made in the relationship between the length and breadth of rectangles. In one where the short dimension is one half of the long, the relationship is easily discerned; in another where the short side is two thirds of the length of the long side, the relationship is less noticeable. Furthermore, the relationship between the length and breadth

of the latter instance seems a pleasanter proportion. The rectangle where the ratio is 3 : 5 suggests a further refinement in the relationship. This proportion approaches closely the "golden mean" of the Greeks, constructed from one of Euclid's propositions in geometry, and accepted generally as a standard of good proportion. It has been used also as a key in the hope it might disclose the Greeks' system of perfect spacing.
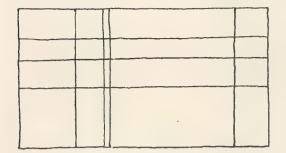
Jay Hambidge, in his *Elements of Dynamic Symmetry*, presents a peculiar series of numbers which he gives evidence to show is connected with the phenomenon of the orderly distribution of the leaves of plants. He presents as this series: 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, etc. It is called a summation series because each succeeding term is composed of the sum of the two preceding terms. As the progression increases, a finer relationship exists between two succeeding numbers. "One term of this series divided into the other equals 1.618," writes Mr. Hambidge, "which is the ratio necessary to explain the symmetry of the plant design system." With this ratio as a unit, he proceeds to confirm instances in natural phenomena, and finally prepares a system for the division of spaces within rectangles which found some ac-

FIGURE 53

Rectilinear Subdivisions

Rectangular Subdivisions
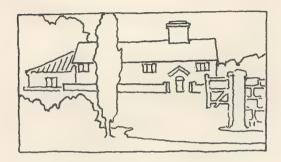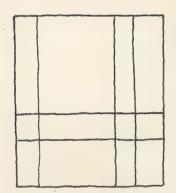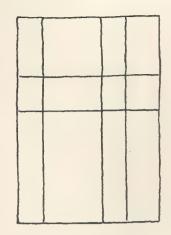
Subdividing a Rectangle
into areas having pleasing interrelationships
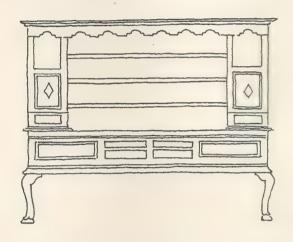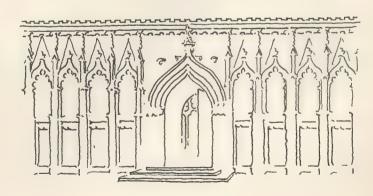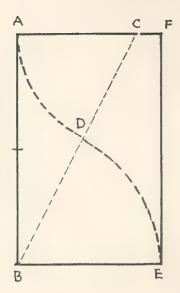
Dividing the rectangle into interesting subdivisions is the first step in the creating of good compositions. Above, two architectural groups are developed from simple "space-breaking" exercises; below, and to the left, the construction of Rembrandt's *Christ at Emmaus* is suggested; a Queen Anne dresser is shown, and below, the design of the choir screen in the Lincoln Cathedral, England, is indicated.

Euclid's "Golden Mean"

A LINE IS geometrically divided so that the short section has the same relation to the long section as the long one bears to the whole line. When applied to an upright rectangle, this means that the width is to the height as the height is to the sum of both dimensions.

The geometrical construction is as follows:

Assume a line AB is the given height. To find the desired width, construct the perpendicular AC equal to one half the line AB; then draw the diagonal, completing the triangle CB. Using C as a point of radius, measure the length of AC on CB to establish D. Then using B as a point of radius, construct a perpendicular BE the length of BD. Erect a line from E parallel to AB to establish F, then complete the rectangle F to C. ABEF is the desired shape.

This rectangle yields shapes: 7 x 11¼; 6½ x 10½; 5½ x 8 15/16; 5 x 8 1/8; 4½ x 7 5/16; and 4 x 6½.

ceptance among artists. It is interesting to compare this ratio with the proportions of the "golden mean"; they will be found similar.

The ancient Greeks may have had formulae for determining the proportions of their masterpieces, thus acquiring refinement of judgment in an intelligent practice of their art. Art thrives on the free choice of a gifted artist, and after a student has acquired certain factual knowledge to serve as the tools of his trade, he should be free to develop without mathematical regulations, restricted only by the requirements of a problem.

The ratio of height to length in a rectangular composition should be determined by the purpose of the design. The golden mean cannot be applied to all purposes. Puvis de Chavannes' mural, *The Sacred Grove*, which adorns the amphitheater at the Sorbonne, in Paris, is a rectangle having a ratio of 1 to 5.

A rectangle, regardless of its proportions, offers opportunity for an infinite variety of arrangements in space division within its inflexible boundaries. As an exercise, the student should design some simple arrangement using geometric or natural forms in a series of rectangles of varying proportion. With study it will be noted that in the rectangle where the horizontal sides are elongated, themes dominated by horizontal lines will compose more pleasingly than arrangements of vertical lines. Vertical compositions should be favored with vertical frames. Study the divisions created by lines in the rectangular fronts of cabinets, cupboards, desks, and bureaus. In examples where good proportion prevails, a pleasing relationship will exist between the "overall" rectangle and its subdivisions.

Usually, the best designs are simple in effect. Book covers and type pages, designed by thoughtful craftsmen, are good examples of space divisions in commercial work. The work of famous painters can be studied to learn their schemes for dividing the area of a rectangle by tracing in outline the chief divisions of their paintings. Analysis of good picturemaking, using museum prints or illustrated books, serves splendidly as an approach to the study of composition. Analysis by itself is negative, and the student is cautioned to study the work of others only as demonstrating certain principles which he may apply constructively to his work. The value of analysis is too frequently outweighed by the habits a student forms when he imitates the effects he observes in his models.

Composition

The following treatise on composition is based on portions of *Composition and Rendering*, by A. Thornton Bishop, published by John Wiley and Sons, in 1933. That book was the result of a series of talks delivered in a class for advanced students, many specializing in the rendering of architectural subjects. Emphasis was placed on the sketch form in art, and the use of the pencil as a medium for expression was particularly stressed.

This treatise, in the nature of an abridgment, is an attempt to bring the subject within the range of a wider circle of readers. Much of the original presentation has been condensed, though portions pertaining to the principles of composition, and the exposition on balance, have been retained in their original form.

Advanced work in composition is merely the working out of simple schemes in more complex arrangements. Though only the basic principles of the subject, including ways of creating harmony, have been explored in these pages, suggestions for their application are given the student, together with a few exercises which should introduce him into a field of study immense in its possibilities for research. This exploration may be made in the pages throughout this book where the work of contemporary masters in composition is liberally distributed.

When we compose, we assemble the various elements of a design into an arrangement that expresses an idea most effectively. There have been many theories on the subject, each proving a particular contention, and controversies arise frequently between the protagonists. Some theorists attempt to discredit any effort to formulate a set of principles to guide a student in a constructive approach to composition, claiming that an arrangement which may please one person can be displeasing to another. Too frequently this point of view encourages students to disregard a search for the principles which govern harmonious arrangement.

Just as our instincts have acquired the basic ingredients of good design from nature, through the repetitive process of impressions absorbed since our youngest days, so do we sense the laws pertaining to proportions that gratify, and to arrangements in a satisfactory state of balance. We are subject to natural laws like those that govern equilibrium and gravity, and we associate the forces which apply in the control of material things to the balance of our thinking. A composition, therefore, is not satisfying if the elements in it are so arranged as to produce the effect of a violation of the laws of equilibrium and gravity. Balance, the equalization of weight,* is therefore a definite principle of composition.

A state of balance, as we have observed in the study of design, can lack interest. Arrangements, symmetrical in character and based on an axial line or point, require the suggestion of movement to arrest more than the minimum of attention. A sensing of rhythm is also instinctive with us. The rhymes of Mother Goose trained our ear to the pleasing cadence of sounds. In solid forms, we find the variety of related things grouped together interesting and restful — restful, because we find nothing incongruous in related things. They compose well, and the variety of their forms increases the visual activity. Rhythm, then, is an important ingredient in the creating of a good composition.

A study of compositions in music or verse will prove an interesting sequel to our exploration of arrangements in drawing and painting, because the elements which make music and poetry pleasing to us have counterparts in architecture, painting, and sculpture. For instance, rhythm in music is produced, not by a repetition of the same sound with the same time interval, but by the accenting

* *Creative Design*, by J. C. Chase.

of one sound, making it dominate the others in the phrase. It requires a dominant note and subordinate notes to create a pleasing effect. Furthermore, the fewer subordinate notes there are in the musical phrase, the more significant the dominant note remains. In drawing and painting, as in music, one element of the composition should dominate the others, and the secondary elements should be as few as possible. "Power is always gained by simplicity and lost by the opposite," wrote John V. Van Pelt, in his *Essentials of Composition as Applied to Art*, "yet the more intricate we make our compositions the more are we tempted to congratulate ourselves for cleverness, and this with the open book of Nature at our side."

When composing, a student will put into practice all he has learned concerning line, tone, and color. Lines are used to divide a given space into satisfying shapes; harmony will result from the pleasing relationship one shape bears another. Tones introduce a new set of relationships as patterns of light and dark, harmony existing in the balance maintained. Color supplies a further interest, and balance and harmony will be created through the successful arrangement of the chromatic values.

In a composition the first few lines are of the greatest importance, as they indicate the structure for the whole work. In them, beauty may appear. If we begin our composition badly by failing to establish good relationships in the division of our spaces, we cannot expect success when tone and color have been added. Lines can be arranged to create harmonies, and harmonies attract the eye. Lines also can be made to express power, and by their arrangement can modify the degree of power. The simplest and severest arrangement is the intersection of two lines to form a right angle. This suggests two forces in opposition to one another colliding with a powerful impact. The attention of an observer is drawn to it instantly; therefore, it is considered the most powerful arrangement with the use of lines in a composition. The power may be modified by increasing or decreasing the angle; in either case, the intersection becomes less abrupt. This arrangement of lines, in its various forms, is known as *convergence*.

The intersection of the strong Doric columns and the lintel in the Greek façade is an example of this way of creating a severe harmony with lines. The apex of the triangular shape which forms the pediment above the columns is a modified use of this power of convergence.
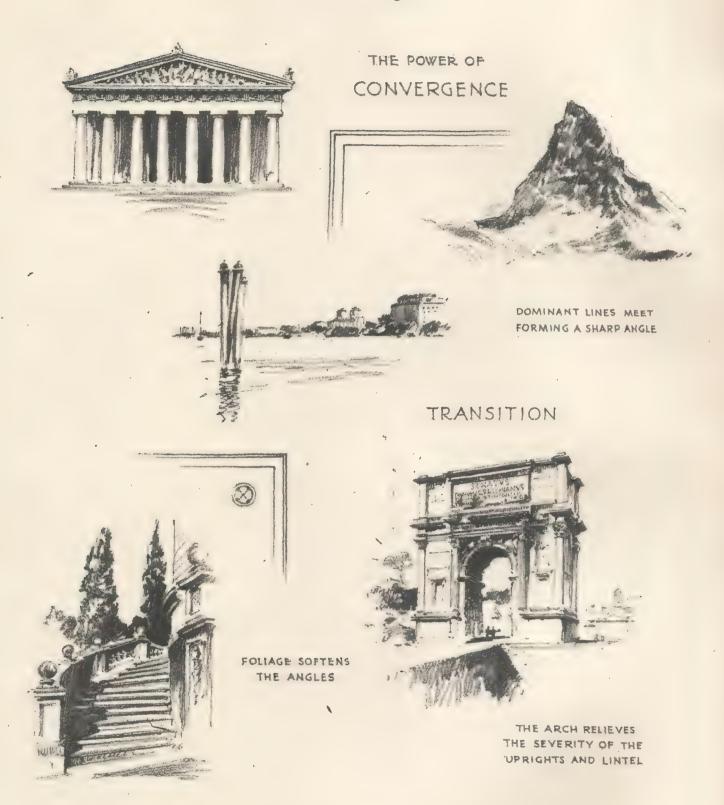
The introduction of another element to soften the severity of the meeting of opposing forces in a composition marks the next step in the creation of harmony. In this, a line is used by way of transition to effect a gradual change in the direction of the lines that meet at the intersection. This softens the severe effect of the convergence. In tone compositions, contrasting values can be softened by the use of modulated tones along which the eye moves gradually. The shock on the optic nerve caused by the contrast is lessened. An additional interest introduced near the point of the intersection of the lines will attract the attention of the eye and soften the effect of the angle. The rounded form of the Roman arch appears less severe than the angular effect of the Greek temple. In drawing landscapes, trees are used as a softening transition in schemes where vertical lines meet the earth line sharply. This device in the creation of harmony is called *transition*.

The forces of convergence and transition concern a single idea, and no composition is complete that has but one unit of interest. Another interest is necessary so that a relationship is created which will help establish the main idea. This additional thought should not be permitted to attract as much attention as the original theme, which should dominate the composition. The chief interest should represent the purpose for which the picture is composed. It should play the leading role, so to speak, and if other themes are made sufficiently prominent to confuse the observer as to the purpose of the artist, the work is a failure.

In accordance with the scheme for all good organization, pictorial compositions must possess singularity in theme, and all the various elements which comprise the picture material should blend or co-operate in establishing the main idea. It is a law of art, exemplified in the masterpieces of music, literature, architecture, sculpture, painting, and the dance, that to be understandable an idea

Schemes of Arrangement

THE POWER OF
CONVERGENCE

DOMINANT LINES MEET
FORMING A SHARP ANGLE

TRANSITION

FOLIAGE SOFTENS
THE ANGLES

THE ARCH RELIEVES
THE SEVERITY OF THE
UPRIGHTS AND LINTEL

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must be expressed simply — there must be singularity of theme.

Developing the chief interest in the picture so that it will dominate all others is a good way to achieve this result and unify the various elements that might otherwise appear scattered. The strongest compositions are those where the main idea is apprehended at a single glance. They compel attention, and the extent of their interest is determined by the way the secondary elements have been developed. Dominance is a powerful factor in nature's law of organization. In the structure of the human body, the arms and legs are subordinated to the torso, which, like the trunk of a tree, serves as an axis for its subordinate members. Frequently in architectural design, the wings of a building are dominated by the chief feature, which is often located in the center of the grouping. The differing size of forms, alike in character, creates an interesting relationship and helps to establish in the observer's mind some conception of the relative size of the different objects. Dominance is achieved in different ways: by position in the picture, by size, and by the means through which the eye is led to the most important element of the composition.

Repeating a shape throughout the picture is another way of creating harmony. The effect will produce movement which will please the eye if the movement has rhythm. Patterns repeated in bands of ornament appeared in the arts of earliest times, and the idea has been adapted in all successive periods of design. Repetition of an element in a design without change of size or shape can produce monotony. In bands of ornament where the object is to produce a stripe of single color, the elements are made as alike as possible; an accented one would destroy the even tone of the band. Here monotony serves a purpose, but in pictorial work, this quality is not desired. By varying the size and position of the repeated elements in the arrangement, monotony can be avoided. It will be observed that in the practice of this suggestion *dominance* plays an important part. In the picture on page 59, the boats at anchor present a repeated element, but their variety in size and shape contributes to an interesting arrangement.
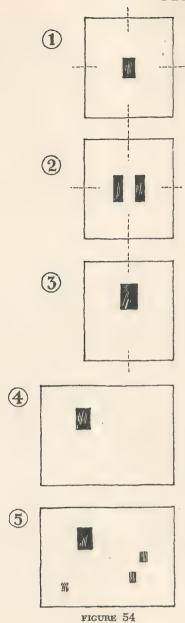
These schemes of arrangement are frequently used together. Lines in convergence may concentrate the attention on a certain point; secondary elements may be grouped in a rhythmical manner about a central object, dominating the composition by reason of its size, its contrast in tonal values, and its proximity to the point where the main lines converge. Collectively they are used to create harmony. Therefore, let us formulate certain principles by which we may construct compositions and give proper consideration to these important points.

Principles of Composition

1. A composition is a harmonious arrangement of two or more elements, one of which dominates all others in interest. Because of the greater attraction this element has for the eye, it becomes a focal point, which we call the center of interest or climax.

2. The secondary interests should be as few as possible, and should be related to the chief interest to preserve unity. They should be arranged to support the chief interest and conduct the eye to it.

3. The position of the center of interest depends upon the feeling of balance created by the distribution of the different elements in the composition. Balance is attained when the varying interests draw the eye to an area near the center of the composition. The laws of balance are similar to those that govern equilibrium and gravity.

So far the ways of creating harmony have been expressed chiefly in the arrangement of lines; little has been mentioned concerning tone. However, not much interest can be created by arrangement of lines alone; contrasts in tone and color are important elements, and the use of them also is governed by the principles formulated.

Our reason for making a picture should furnish the object to serve as the center of interest. This center of interest should not be placed in the center of the picture. This would produce an effect lacking movement that would be uninteresting. The student should experiment by placing the chief interest to one side of the center, permitting the secondary elements in the picture to be dis-

of interests falls, the composition rests in balance. This point should be close to the center of interest.

Balance is most easily obtained in symmetrical arrangements, which establish a state of repose in decorative and architectural schemes. In pictorial compositions where movement is desirable, balance must be attained by arrangements that are not symmetrical. This problem is explored in the accompanying series of diagrams (Figure 54).

Diagram 1 shows a single mass in the center of the space. This is not a composition. Diagram 2 shows two masses equidistant from the center of the frame and both of like size and weight. This is a symmetrical arrangement but not interesting. Diagram 3 shows a single mass placed a bit above the center of the space. The space about it has been broken up into different divisions, and the relationship of the divisions creates an interest secondary to the mass itself. Furthermore, we feel that space has a buoyancy of its own and can support a given weight. Therefore, we feel that Diagram 3 shows a more substantial state of balance than Diagram 1. Any element in art lacking a relationship to other elements seems to possess no reason for existing.

Just as space has buoyancy, we also regard space as having weight. In Diagram 4, the white space, assuming substance of its own, has a tendency to balance the solid object off center in the frame. This space is often developed into minor elements of interest, their tone value being of less contrast to the background than the contrast created in the chief feature. This gives movement, or visual activity, to the composition.

Movement in a picture may be controlled by the way the details are arranged. The attention of the eye can be directed, accelerated, or retarded by means of the relative potencies of interest. It is the purpose in picturemaking to arrange these interests in such a way as to guide the eye through the progressive steps to the main feature, and to offer it a convenient way back to the starting point, having taken the entire picture area in proper progression. This movement is essential to good composition because the eye does not stay fixed on any one point for a long time. When movement stops, a becalmed condition exists, which appears uninteresting and quickly loses the observer's attention.

tributed around the other areas in some studied arrangement. These secondary interests help to establish a proper balance. Interest is given to them by contrasts of tone and color, and the degree of attention accorded the various elements can be controlled by the degree of contrast they create.

Each interest in a composition has a certain power to attract the eye. Secondary elements, having less power than the chief feature, nevertheless draw the observer's eye from the center of interest in proportion to their relative potencies. At a certain place in the picture where the average

THE TREE'S TRUNK
DOMINATES
ITS BRANCHES

DOMINANCE

IS THE ESSENTIAL INGREDIENT
IN ALL GOOD COMPOSITIONS

THE ARCHITECTURAL FEATURE
DOMINATES THE SETTING

THE CENTER ROSE DOMINATES THE SPRAY

REPETITION

RHYTHM IN RELATED THINGS

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Selecting Material for a Composition

Three values

Two values

Two values

Three values

Four values

A tree is made the center of interest in five rectangular compositions based on the same landscape. Composing to fit a specified area makes necessary the selection of material to be used. This kind of practice is valuable to the student because it disciplines him to work to given requirements. These sketches have been rendered in simple values, which is the proper procedure to follow when constructing a composition.

The student will find that landscapes offer the best subjects for his initial experiments in composing. Variety of material and limitless possibilities in the use of it will prove fascinating and instructive. Irregular spaces can be devised with full attention given to their value as design. No attempt should be made to force into a composition some particular "natural" effect merely because the student noted the effect in nature at some previous time. In composition, the elements of nature are assembled into a pattern which typifies a condition and expresses the effect in terms of art. An imitation of nature with photographic precision does not necessarily present the whole story—the true "reality." By the limitation of the frame, it confines the representation of the natural condition to an incident, a small fragment of the broad impression the artist wishes to convey to others. Everything he includes in his picture should contribute something to that broad impression, and serve as an integral part of the whole design. This discipline will prove helpful in the development of the student as he progresses, using other forms, notably the human figure.

A sense of liberation from the confinement of a photographic presentation of nature adds immeasurably to the growth of a student's individuality, but it should not be regarded as a license to ignore the basic truths in nature's forms and coloring. It should always be remembered that individuality of expression can never be an excuse for faulty drawing, proportion, or composition. The expressions of an artist are the outcome of the nature and life of the man, and the measure of his contribution to his art as an interpreter of beauty's laws is the sincerity with which he tries to convey to others the warmth he feels when he beholds pleasing relationships in line, tone, and color. It is the result of an intelligence trained by practice of those principles of design that time has evolved.

We may all heed with profit the admonition of Ben Jonson—"art hath an enemy called ignorance."

Color in Theory and Practice

THE STUDY OF color is approached frequently from the point of view of the scientist, either in regard to the physics of light or the chemistry of dyes and pigments. Either approach, having infinite ramifications, can become baffling, even to an inquisitive student. Although information about each of these subjects is helpful, so far as certain principles are concerned, a scientific understanding of color will in no way substitute for an appreciation of its possible harmonious relationships.

Color has a sensuous appeal, and an analogy may be drawn between the effect produced on the emotions by different colors and the effect caused on the ear, for instance, by major and minor chords in music, or on the nose by sweet and pungent odors. Colors create sensations differing with the potency and quality they possess. We may regard the potency of a color as the power it has to produce a shock on the optic nerve, and its quality is adjudged by the degree it assimilates its counterpart in the pure color rays of the spectrum. Certain effects of color can cause a pleasurable reaction in an observer, while others can give an effect similar to a discord in music. Therefore, we should regard the potencies and qualities of color when we organize them to produce an effect in a painting.

We see things in color as they reflect the various color rays in the light which illumines them. White light, or daylight, is comprised of color rays which, when directed through a triangular-shaped glass called a prism, separate themselves and take fixed positions, beginning with red at the top and graduating through red-orange, orange, orange-yellow, yellow, yellow-green, green, green-blue, blue, blue-violet, to violet. These colors, which blend into one another, are not distributed in equal volume. The orange, orange-yellow, and yellow are confined to a very small area, while the blue, blue-violet, and violet cover more than one half the length of the spectrum's range.

Color rays produce sensations because of minute waves falling on the nervous substance of the eye. Waves of vibration in sound have been comprehended for a long time. Light waves have become more widely understood since their use in radar during the recent war. According to the *Text Book of Color*, a book by Ogden N. Rood which has for long served as a standard source for students of the subject, when waves of light have a length of about 1/39,000 of an inch, they produce the sensation we call red, and as their length is shortened the sensation they carry changes, passing into orange, yellow, green, blue, and violet.

When an object appears red, it is because the red rays in light are the chief source of its illumination, other rays adding little to its lighting. Colored objects appear black if illumined only by a color which they do not possess. There is little blue and violet seen in the yellowish light of lamps and candles. This fact has a practical application for the ladies whose evening gowns of warm color are brightened by the yellowish rays of artificial light, whereas blue dresses, shaded toward the green, appear green and, if shaded toward violet, appear black.

A black object absorbs nearly all of the light rays; a white one reflects nearly all; a gray absorbs some and reflects others. These objects, neutral in color, differ not in the kinds of light waves they absorb or reflect, but in their quantities. Colored objects absorb or reflect the color rays in light differently. An object absorbs those rays which, when mixed with the color of its own substance, produce a neutralized effect, and reflects those which, allied to itself, create the color sensations we feel when we view the object. For instance, if a red light falls on an object which, under the full range of color rays in white light, appears green-blue, the object appears colorless because no element of red exists in it to reflect a ray of red light. If a yellow light falls on an object of ultramarine-blue, the same effect is produced and for the same

reason. These observations should be borne in mind when the study of complementary colors is reached.

One substance differs from another in color because of its texture, and the peculiarities of its surfaces determine what color rays illumine it. These differences, imperceptible though they may seem to be, can be felt nevertheless by sensitive finger tips in the dark. It is said that persons without the use of sight develop a sensitive touch to such an extent that they can identify the colors of varying materials.[*]

Light rays lose much of their brilliance when reflected from an object. Some objects are transparent, some noticeably absorbent, others apparently opaque, but nearly all things with which we come in contact allow some light to penetrate a little way into their substance and thus weaken the power of the rays, then reflect them in different directions, diminishing further their intensity and power.

This condition places the painter at a disadvantage in his effort to match in brilliance the color which comprises light. The designer of stained-glass windows, for instance, has at his disposal a much more extensive range of light than has the painter of canvases. The translucency of glass permits the direct transmission of light through the painted color, thus producing more brilliant effects than are possible when light is reflected from a surface.

This difference between color in light and color in pigments is further noted in the selection by the scientists of the primitives in color. In light, red, yellow-green, and blue-violet are declared the primaries, whereas in pigments the primaries are determined by their singularity—that is, they are those which "cannot be made by the mixture of other colors." The only three which answer this definition are red, yellow, and blue. There are many reds and many kinds of yellows and blues, so before proceeding with a study of the various combinations which can be made from the "primaries" it will prove practicable to identify which red, yellow, and blue shall be considered primary. Among pigments, those known as rose madder, lemon yellow, and cobalt blue approximate in quality what

[*] *An Artist Talks about Color*, Joseph Cummings Chase, John Wiley and Sons.

are generally accepted by artists and manufacturers of paints as the three theoretical primaries. Of these three, the percentage of light reflected is greatest from yellow, red next, and blue least.

The first step in color blending is the mixing of two primary colors, such as red and yellow, which produce orange; yellow and blue, which make green; and red and blue, which blend into purple. Varying qualities of orange, green, and purple are determined by the proportion of primary colors used in the blending. These colors are known as secondaries.

The second step in blending is the mixing of two secondaries. By this means we add to our combinations red-orange, yellow-orange, yellow-green, blue-green, blue-purple, and red-purple. These are known as tertiaries.

The third step is the blending of two tertiaries, as shown in the accompanying chart, and this further mixing produces a color we identify as russet, which is made from a red-purple and a red-orange; another color not unlike the preserved rind of citron, resulting from yellow-orange and yellow-green; and a dark olive through the blend of blue-green and blue-purple. Other mixing of tertiaries produces a darkening of the secondaries.

Differing again from light wherein all the colors blend into white light, the sum of pigment colors makes gray. Therefore, when one color is removed, it requires the sum of the remaining colors to gray that color. For instance, red will be grayed by its blending with a combination of the sum of the remaining colors in the spectrum, which are represented in yellow and blue, green. This color, when placed alongside red, heightens the brilliance of that color, which accounts for its being known as the complement of red. For the same reason, purple is the complement of yellow; orange the complement of blue; and the relationship exists among all blendings of colors. Blue-purple is the complement of yellow-orange; yellow-green of red-purple; and olive of dark orange.

When colors that are complements are arranged in a scheme, the general effect is satisfying, depending on the dominance of one color over the other. Colors having equal attraction for the eye can produce disagreeable effects regardless of their being complements. Complementary schemes are

said to have color contrast, and color contrast is a way of producing a harmony. As in all forms of art, however, one element must dominate, and complementary schemes are most successful when the tint of one color is contrasted with the shade of its complement.*

Unity is expressed in the full range of spectrum color, and this unity is broken when one color is missing. In nature the eye senses the need for color unity, and supplies it subconsciously when it is lacking. As one looks across the sunlit snow, the surface of the snow appears overcast with an orange light. Where the snow passes into shadow, the color of the shadow is a pure blue. This may be considered an optical effect, but it further illustrates the sensing of complementary color to produce the color unity the eye finds pleasing. In summer, the sun-flecked green foliage takes on the appearance of deep reddish purple in the shadows.

Colors are not mixed in equal proportion with their complementaries to produce a neutral effect —gray. Only three parts of yellow are necessary to "neutralize" thirteen parts of purple; five parts of red will gray eleven parts of green; but equal parts of blue and orange make gray. These relationships, shown by the figures on the color wheel, are needed just as much in the distribution of color by area as in mixing the pigments. Neutralized effects are harmonious effects, and colors are used harmoniously when regard has been given to the quantity of color used in relationship with its complement. When complementary colors appear harsh, many painters soften the effect by mixing a bit of one color with the other. Nature accomplishes this harmony in her own way, as we shall observe later.

When a segment of the spectrum is used as a color scheme, such as red, orange, and yellow, or orange, yellow, and yellow-green, the arrangement is called color harmony. It is a sequence of analogous colors, all closely related in the color scale, and the effect, while not disturbing, lacks the unity which is attained when the complement of one of

the colors is introduced into the arrangement. Some of the most effective color arrangements result from the placing of a small area of potent color with high intensity against a background comprised of analogous colors, the basis of which is the complement of the featured color.

The relative potencies of color are a further means of selecting them for a definite purpose in a color design. They may be classified for practical purposes into two groups—colors that advance from a neutral position toward the eye, and those that retreat from the neutral ground. In the first group are the yellows, oranges, and reds; in the second group, the greens, blues, and violets. Yellow is by far the most advancing color in the color scale, red having but 60 per cent of its value in this regard, blue only 37½ per cent.

The "advancing" and "retreating" relationship, however, exists between any two colors in the spectrum. Red-purple will seem to advance when placed in juxtaposition with a blue-purple, but will retreat when the lighter and brighter hues of yellow-green are displayed with it. This quality in color aids the painter immeasurably in creating the relative points of interest in a color painting. Green, on the dividing line between the two groups, is most susceptible to blending with blue, yellow, and red, the last of which is used to neutralize it, making the green appear as if viewed at a distance.

Applying Color Theory

Probably the most satisfying approach to the study of color for an art student is through a series of observations and experiments with a water-color palette in a flower garden. Here he will have contact at first hand with all of the problems of light, and if he observes carefully he will acquire a tremendous breadth of information about color harmonies, color contrasts, as well as much knowledge concerning some of nature's phenomenal effects.

Regardless of the nature of the garden, a student's first impression is invariably the same—the effect is harmonious. Divine Providence seems to create a gratifying balance between the areas of brilliant color and their complementary back-

* Since complementary colors in light are those which, when blended, make white, and in pigments make gray, it follows that if a color becomes darker, in order that the two together may still continue to make white or neutral gray the complementary must become correspondingly lighter.

ground. Even in the green stalks and leaves which support and surround some blossom of vibrant red, the green has been moderated in its intensity and relegated to a secondary importance in the general scheme. Upon closer examination, it would seem as though some of the very color of the red flower had been blended into the green stalk to effect a more nearly perfect harmony.

All colors are affected by the kind of light which illumines them, and it will be helpful to note the changes of color in the garden under the varying conditions of morning, noon, and evening. The white flowers are a fickle variety and take on the tint of any color of light that falls on them. The reason for this is that white contains all the colors and so gives off the color it receives.

Water is regarded as possessing a bluish tint, but because of its translucence it may transmit the color of any material seen through it, and may reflect from its surface the color of anything that happens to be above it. Atmosphere, which contains varying degrees of moisture, has a bluish-white tint when light falls on it from above. This is why the sky appears whitish when viewed along the horizon at noon, in contrast to the brighter blue overhead. However, it has a reddish and yellowish tint when the light of the sun is transmitted through it in the morning or the evening. This is because the direct rays from the sun make a long passage through the atmosphere and give to this vapor a reddish or yellowish tint, anything appearing in this light being affected by this color.

Objects in shadow are made visible by the colored light reflected from the sky, whatever this light may be. In the early morning a strong influence of rose color is frequently seen in the shadows; in the evening, a cloudless sky will reflect a bluish light, while one broken by clouds and reflecting no positive color will cause the shadows to assume in color the complement of the objects in direct light. Sometimes the green leaves of midsummer in the garden are tinged at sunset with a color so warm that they seem to take on their golden tints of autumn.

When the sun is overhead, its light penetrates the belt of atmosphere through its shortest dimension, the yellowish rays affecting it less than they do later in the day. This causes the illumination to

appear cooler, and the shadows somewhat the opposite, either because of an optical assumption of contrast or the warmth of the light reflected from the earthy color of the ground. In cloudy weather the lights are cool and there are no definite shadows, but when shadows are cast by clouds on a sunny day the shadows appear bluish in contrast to the sunlit surfaces of the earth.

Distance weakens the potency of color, even changing it from one having more light to one having less light. For instance, a bright red changes to a darker red and brown as the distance increases, orange into red-orange and dark red; yellow to a yellowish gray; green into a bluish green and finally gray; and blue into dark blue, mauve, and gray.

The painter sometimes reproduces these transitions by blending a little of a color's complement into the color as the object increases in distance from the eye. These changes are the result of the increasing density of the atmosphere between the object and the eye, and are further influenced by the nature of the light falling on this atmosphere. Blue loses its color quality earliest as distance lengthens; orange and yellow retain their identities for the greatest distance. This is because they reflect the warm tints of the sun's rays, while blues absorb them. Probably the ancients gilded their domes so that they could be seen from afar.

Smoke is a substance that both reflects light and transmits light through it. The light reflected has a bluish tint, whereas the sunlight which passes through it is tinted brownish yellow and, when the smoke is particularly dense, a dark orange. Phenomena of this nature are caused by the intermixture of fine particles of foreign matter in the atmosphere, some reflecting the sun's rays and others intensifying them as they pass through. In *Modern Chromatics*, by Professor Rood, this condition is illustrated in an experiment where smoke is shown partly against the roof of a building and partly against the sky. Against the dark background furnished by the building the smoke appeared blue, while against the light background it was brownish. In the lower portion the light is reflected; in the upper it passes through an opalescent medium. This effect is frequently seen as the sun's rays filter through a bank of clouds.

Painting with Water Color

Water-color painting offers the simplest method for experimenting with color, because only water is required as a mixing medium and white paper or illustration board supplies an acceptable surface. This method of painting is said to have developed in England about 1750, when an artist named Sandby founded a school which has given to England its reputation for contributing this medium to the world of art. Effects are obtained by the use of transparent washes, and where high lights are desired the paper is permitted to show through between the washes of color. Sable brushes of varying sizes should be used, and they should be of such a quality that, when dipped in water and shaken to eliminate excess moisture, the hairs will taper to a point. The standard water-color paintbox offers a small area for the mixing of colors. The student will find greater facility if he uses a larger palette made of china or porcelain.

A selection of colors suitable for most purposes and found satisfactory by prominent water-color painters should include at least three yellows, two reds, two blues, a green, and a warm ground color, such as burnt sienna. The following palette offers a practical suggestion.

Lemon yellow
Aureolin
Cadmium yellow deep
Yellow ocher light
Cadmium orange
Burnt sienna
Vandyke brown
Rose madder (Madder lake)
Vermilion
Cerulean blue
Cobalt blue
Ultramarine blue
Viridian green
Emerald green
Hooker's green No. 2

Two methods for developing a water-color painting are practiced, and artists frequently employ both methods in the same painting when the virtues of each offer the most promising results.

The first of these methods is the laying of suc-cessive washes, beginning with a thin mixture of the color and repeating the wash a second and third time with increasing strength of color after each previous wash has dried. Flat areas, such as skies and ground washes, are accomplished in this manner. Gradations of tone are made in the following manner: Mix a small quantity of color in a dish, then with clean water dampen the area to be painted, and, with a large brush filled with color, lay a broad stroke across the paper at the top of the dampened area. Cleaning the brush quickly, fill it with pure water and add this to the mixture when making the second stroke. Continue this method, lightening the consistency of the color in the mixture as you cover the area with washes.

When gradating two different colors, such as a deep blue at the top and a greenish gray at the line of the horizon, turn the paper around and, starting with the horizon at the top, float the lighter color, in this case the greenish gray, first. When dry, reverse the paper back to its original position and, starting at the top, wash in the darker blue, following the method previously outlined, gradating with clean water as the two colors meet and blend together.

The second method is more direct and requires faster handling. In the making of the two-color gradations, two quantities of color are required, one blue and one greenish gray, with a brush ready for each. Beginning with the blue wash, gradate it down to the level at which it is desired to introduce the greenish gray, and make the change from blue to gray so that the blend will be accomplished while both colors are wet. This method requires much practice to avoid a "streaky" effect.

As preliminary exercises to painting in water color, the student should begin by making a gradated color chart to acquaint himself with the possibilities of color mixture and color intensity. The colors red, orange, yellow, yellow-green, blue-green, blue, violet, blue-purple, and red-purple should be developed in seven gradated degrees of intensity from a pale tint to the darkest shade of the color. To accomplish this, the student should refer to the foregoing explanation of the development of colors from the primaries to the tertiaries. The diagram on page 69 will furnish

the form for the making of this color-tone scale.

The student should also experiment with a brush full of color, trying it on a dampened background to familiarize himself with the degree of dampness the paper or board should have so that the color will flow most easily and without the danger of running and getting out of control.

Another exercise, directed toward improved skill in composing in color, is the painting of small areas, each of a different color, and introducing into each a bit of its respective complementary color. In this way the student will learn the power of color contrast, and will train himself to think in terms of neutralizing color, such as painting an object in shadow, by the use of its complementary.

The student should avoid the spotty effect of many colors in his painting or design. The most satisfactory color compositions have a basic characteristic—that is, their unity of effect. The artist arranges to have one color dominate the scheme, which establishes its mood or purpose. He paints a blue picture, or a red, a green, or a brown picture, and introduces his color contrast in a simplified manner, frequently confining it to a definite area to make its use more effective. Many artists cover their entire paper or board with a single wash to help "pull together" the elements of their paintings. When the warmth of sunshine is desired, this overall wash is frequently a tint of yellow ocher. Blues washed over this will show the influence of the yellow color beneath and will consequently appear greenish, or neutralized. In cases where the most brilliant blues are desired, this warm undertone is used only over those portions of the painting where sunlight is concentrated.

Pencil outlines used as preliminary drawing in a water color should be kept light as they will show through the transparent color. Erasures on the paper should be avoided, as they seem to change the quality of the surface sufficiently to cause trouble when floating on a flat wash.

The method of building up a painting by means of successive washes is illustrated in the series of progressive steps on pages 74 and 75, by John Pike, a well-known water-color painter. Despite the absence of color, the application of the washes will furnish a student with many helpful suggestions.

Painting with Oil Colors

To the average student, the making of an oil painting seems to be the full attainment of his stature as an artist—it represents the very essence of high art. Undoubtedly, this is because the casual observer has seen the walls of museums filled with oil paintings, apparently to the exclusion of other mediums. It is therefore the ultimate objective of most art students, and it offers the strongest appeal because, unlike water color, its pigments can be applied in a pure state, resulting in effects of brilliance.

To paint without muddying the color is the student's chief problem. Some years ago, oil painting was taught in the art schools by a method in which beginners applied color to their canvases with a palette knife. This method had its advantages because the mixing of color is accomplished by the blade of the knife, thus avoiding the stirring with an oily brush which, in the case of many students, is frequently dirty.
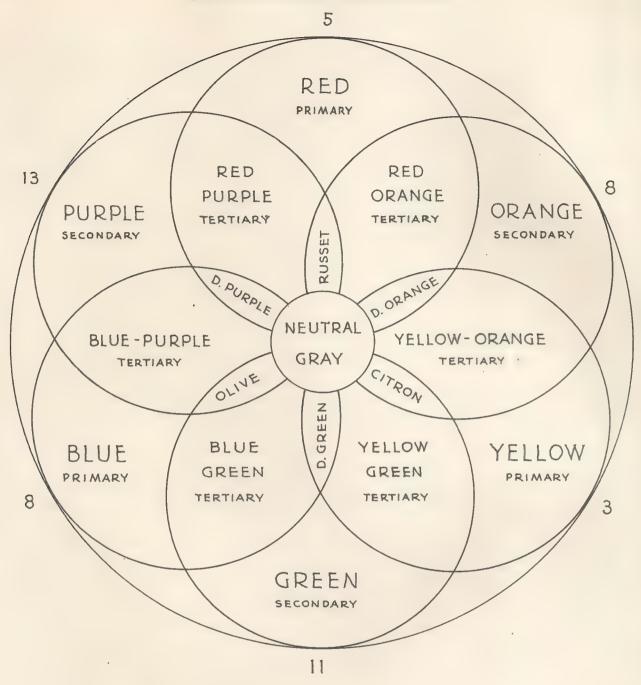
Painting with a palette knife has other advantages. The knife can be cleaned quickly by a wipe with a cloth, permitting the student to work rapidly, and small details can be drawn with the rounded end of the knife's blade as accurately as with a small bristle brush, and with less danger of fouling the quality of the color.

One of the reasons for a student's difficulty in obtaining results fresh in color is the use of black. Black dirties a color; it does not serve as the method to paint the shadow of an object of any color, with the possible exception of a gray one, and even in this instance reflected lights might make the use of black disastrous.

The appearance of white among oil colors marks a notable difference from the water-color palette. Although oils may be used thinly, they are not considered transparent and, when used on canvas, white is needed to give body to the paint as well as to lighten the tone of the oil pigments.

Color mixing has been treated rather broadly in the foregoing section on water-color painting, and the principles which govern the effects in that medium are similar in oil. It is in the chemistry of the pigments that the great difference lies, and

5

RED
PRIMARY

13

RED
PURPLE
TERTIARY

RED
ORANGE
TERTIARY

8

PURPLE
SECONDARY

ORANGE
SECONDARY

RUSSET

D. PURPLE

D. ORANGE

BLUE-PURPLE
TERTIARY

NEUTRAL
GRAY

YELLOW-ORANGE
TERTIARY

OLIVE

CITRON

D. GREEN

8

BLUE
PRIMARY

BLUE
GREEN
TERTIARY

YELLOW
GREEN
TERTIARY

YELLOW
PRIMARY

3

GREEN
SECONDARY

11
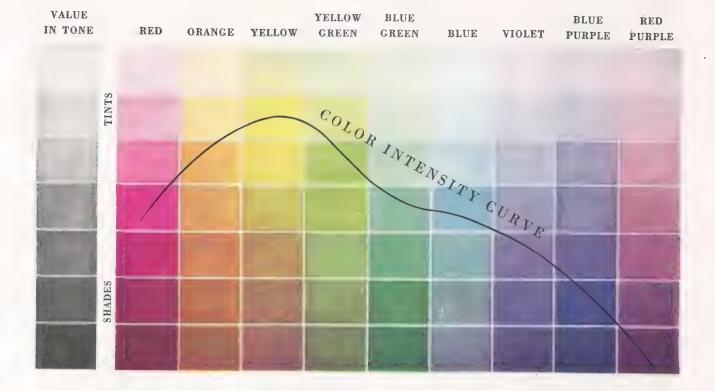
Chart Showing Development of Color Combinations

FROM THE three primaries, the three secondaries are made; from the three secondaries, the six tertiaries, and from the six tertiaries, six quaternaries, shown on the chart as russet, dark orange, citron, dark green, olive, and dark purple. The figures near the primaries and secondaries denote the volume of color that needs to be mixed with the complement to make a neutral gray. Colors diagonally opposite each other on the chart are complementary. The eye feels a restful harmony in gray, and finds in the complementary of a color the balance necessary in a color composition to produce a satisfying sensation. Afterimages help to explain this condition. Afterimages are caused by the eye's becoming fatigued by a lengthy exposure to a certain color; then, when the eye is shifted to a neutral ground, the complement of the color appears as an image in the shape of the original area of the color.

TINTS

SHADES

COLOR INTENSITY CURVE

Color-Tone Scale
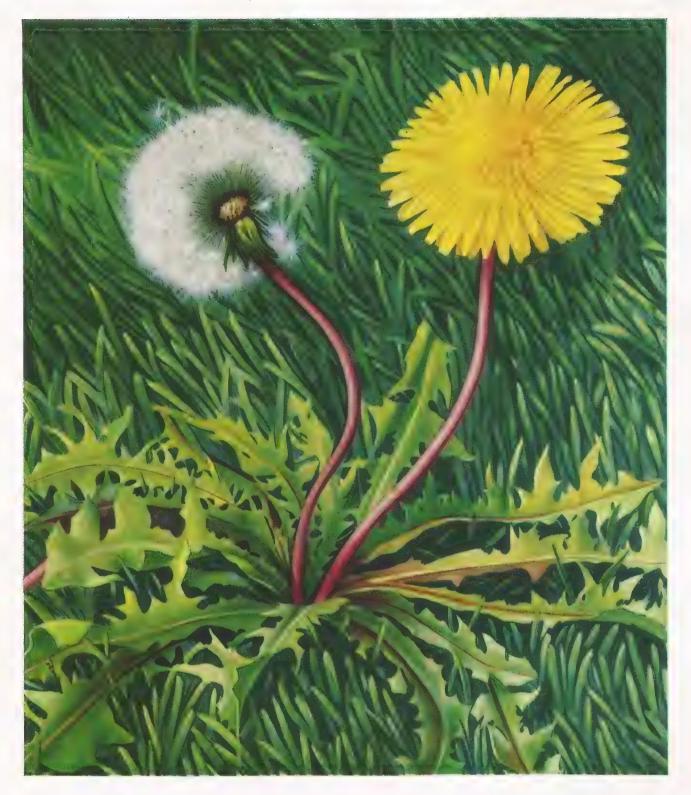
In the spectrum some colors are light, some dark, and in the use of pigment, the student will find a similar variation. The tonal quality of each color, in the intensity which most nearly approximates its purest "spectrum" quality, should be established by the student in water color on the color-tone scale. For instance, the quality of red places it about in the center of the scale; the quality of orange is slightly lighter; yellow is the lightest; yellow-green is somewhat darker; blue-green and blue are of about the same tonal value; violet, blue-purple and red-purple are progressively darker.

Following the color-intensity curve as a guide, the student should paint the "spectrum" intensity of each color in the proper place on the chart. Then the painting of the tints (lighter) and shades (darker) of the colors to approximate the tonal values in gray will be found much simpler. Where yellow will be but one tint lighter than its spectrum-intensity value (all other degrees of the color being shades), red-purple will be gradated entirely in tints, degrees of which should approximate the tonal values in gray.

In making a tint of a color, only water need be added, but the student should remember that in making a shade of a color—that is, to darken a color—the complement of the color should be mixed with it. For instance, to darken yellow, purple should be added. If black were used, the result would be a dirty green. To darken red, add green; to add black would result in a coffee-bean brown. To darken orange, use blue. (Refer to the section about complementaries.)

This Color-Tone Scale differs from most color scales which, in blending two colors, produce a different color. In this exercise no new color is made. Rather, the same color is darkened. Many students of painting labor over this problem and experiment with repeated disappointments in an effort to give the correct statement of a given color in a reduced degree of light. Much benefit will result in practicing this exercise.
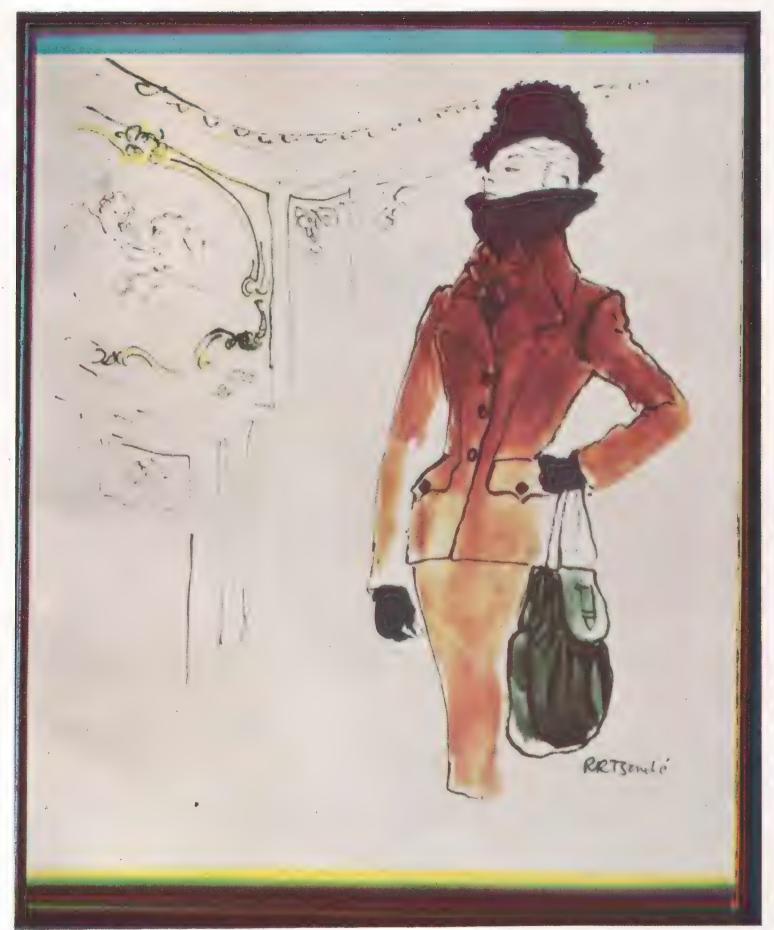
Richard Harker

MR. HARKER's painting of a dandelion plant is essentially a blue-green picture with the yellow blossom and stems silhouetted starkly against a background of "retreating" color. Observe how the warmer tints of green in the leaves of the plant bring this part of the painting forward. Reproduced by courtesy of the Dow Chemical Company.

René Robert Bouché

WITH THE same objectives as in his black-and-whites, R. R. Bouché seeks the spirit of his subject in color. Using delicate tints and complementary schemes of reduced intensity, he combines reddish-brown and deep green in the illustration opposite, reprinted from the November 1, 1945, issue of *Vogue*, copyright, 1945, The Condé Nast Publications, Inc.

Reproduced by courtesy of Macbeth Gallery; plates by courtesy of West Virginia Pulp and Paper Company.

Ogden Pleissner

OGDEN PLEISSNER's painting, "North of Rawlins," is shown to the left in its entirety to give the full composition. A portion of the painting, reproduced above in full color, illustrates the artist's treatment of light and dark areas. The weather-beaten effect is well suggested by the brown and mauve scheme, the touches of sunlight further emphasizing the bleakness of the subject.

the student should acquaint himself with the colors which can be mixed with zinc and those which blend well with lead. Cadmiums, for instance, are used with a "zinc palette," chromes with a "lead palette."

Selection of colors differs with the nature of an artist's work. According to Joseph Cummings Chase, the simplest palette consists of rose madder, cadmium yellow light, ultramarine blue, and zinc white. For portrait-painting purposes he adds Chinese vermilion, yellow ocher, emeraude green, and burnt umber. Lemon yellow is sometimes substituted for the cadmium. The palettes of other painters differ only slightly; another red and sometimes cerulean blue are added. Black appears on the palettes of many prominent artists, but they seem to apologize for its being there by insisting that they use it "very, very seldom."

Turpentine is used as a mixing medium in the early stages of a painting, when the ground colors are laid on, partly to speed the drying and partly to spread the foundation color more thinly. Afterward, linseed oil is used, but sparingly.

A thorough description of oil colors—what they are made of and how they are used most satisfactorily—forms an important portion of Mr. Chase's book, *An Artist Talks about Color*, to which previous reference has been made.

When painting in oil, the student should apply the fundamental practices he learned in the earliest drawing exercises. Just as in line, where the strokes of the pencil and pen were drawn to suggest the planes of the surfaces, so should the blade of the knife, or brush strokes, form the shape of the object. The appearance of brush strokes in a pattern which does not help to define the subject of the painting harms the general effect, and suggests little more than the existence of paint. The student should also practice drawing with the knife and brush, learning to break down the edges formed by paint which catch the light and introduce unwanted high lights into the picture.

About fifty years ago a revolutionary idea was introduced into the art of painting. Artists of earlier times had mixed their colors before putting them on the wall or canvas exactly as they wished them to be seen from a distance. During the last half of the nineteenth century, painters of the French school, of which Claude Monet was a leading exponent, introduced a method by which they brought in proximity the component factors of a desired color in their prismatic form so that the blending of them was accomplished in the eye of the observer standing at a distance. It was considered the way in which the color effects of nature are produced, and was based on the theory that color is light in a decomposed form. The use of prismatic color, they contended, rendered the art product more satisfactory.

As in the case of every good thing, this method is frequently carried too far. It is true that absurd extremes in this innovation are developments which never would have appeared but for the merit in the sincere attempt to find a way to present natural effects truthfully, and the same may be said of the equally absurd treatment of painting all objects on a smooth surface, ignoring the difference in character between a human face and a rocky reef.

The method of painting so that the general effect is produced by the mixing of colors in the eye has been chiefly instrumental in introducing the spirit of adventure and experiment in the hearts of the painters of the twentieth century, and it offers broad opportunities to present-day students in their efforts to develop the art of painting further.

Painting with Pastels

The virtue of pastel chalks is the wide range of delicate tints obtainable with a minimum of color mixing. The medium has an ancient and honorable lineage, having been used by many old masters, one of whom was Leonardo da Vinci. Many of his pastel drawings have been part of the grand-ducal collection at Weimar. Pastels are used today by many prominent magazine-cover artists because the medium is especially adaptable to portrait painting. Penrhyn Stanlaws, Neysa McMein, and Bradshaw Crandall are among the familiar names seen on colorful covers.

Soft paper with a rough texture is best suited for pastel work; some artists have used sheets of white blotting paper because of the soft surface. The chalks should be used directly to obtain the most brilliant effects. Rubbing or smudging will

result in a blotch. They are difficult to remove, once applied; therefore, trial attempts should be made on another piece of paper. The tip of the finger can be used lightly to spread the chalk, and this helps to cover the whole surface of the paper, an aid to good reproduction.

There is no way to preserve a pastel painting other than under glass, and, when framed, some space should be provided between the glass and the surface of the picture.

Boxes of sets of pastels ranging from twenty to more than one hundred different tints can be obtained. In this medium, the more the merrier, because mixing of them is limited.

The Development of a Water Color
by John Pike

1. The subject is sketched in lightly in outline, establishing the composition. This scene impressed Mr. Pike when he visited Sicily.

2. Mr. Pike begins with the sky. By the softness of the edge which appears in the background to the left, it is evident that the paper was moistened before color was applied.

3. An undertone is washed over the balance of the painting, allowing certain high lights to remain along edges in the middle distance.

4. A tonal contrast has been introduced, giving solidity to the building.

74

5. The middle distance is further developed and the upper portions of the picture begin to take shape.

6. Flat washes establish the figures and the animals.

7. The buildings are further defined, foliage high lights in the foreground are established by the tone on the shaded side of the roof.

8. More work has been done on the foliage and the roof of the larger building.

9. Mr. Pike returns to the middle distance and develops foliage and buildings there. He also works up the lower left-hand corner.

10. The animals in the foreground are given some accents; additional touches of foliage are added, and the sketch is completed.

The Artist Selects His Medium

ANY AN ARTIST is known to the public by the subjects he draws or paints repeatedly, and in which subjects he attains a high degree of perfection. He may be considered a specialist in landscapes, marine pictures, locomotives, architectural renderings, human figures, fashion accessories, or furniture, to mention but a few. Not only does he like to draw or paint a particular kind of object, but he earns a reputation and is sought by purchasers of such work because of his extraordinary knowledge of that subject.

Artists are known also by the mediums they use, such as pen and ink, pencil, pastels, crayons, water colors, or oils. Although the association of an artist's name with a particular medium by the public may result from the frequency with which he uses the medium, most artists are sufficiently versatile by training to render creditable pieces of work in many mediums. James Montgomery Flagg, well known for his pen-and-ink drawings, produced many illustrations in black-and-white wash, and also painted portraits in oil colors.

The selection of a medium is frequently determined by the method to be used in the reproduction of the work, and artists must be prepared to do their work so that it meets the practical conditions of book manufacture. The reasons for selecting a certain medium will be better understood if a brief explanation is given of the various processes by which artwork is prepared for reproduction.

Pen-and-Ink Drawings

Drawings in pen and ink are most common because they are most easily reproduced. The drawings are made with a black ink, and all lines, dots, or masses produce a pattern in one color only —black. A photographic negative is made of the drawing, enlarged or reduced in size as desired, and the negative is printed on a sheet of zinc or copper sensitized with a bichromatized solution.

The metal plate is then washed with water, but the washing does not remove the image of the drawing where the sensitized coating was exposed to the light in the printing frame. This portion of the plate—that means every line and dot of the drawing—is treated with a preparation which will repel an acid; the reverse side of the plate is painted with an asphaltum varnish or shellac.

The metal plate is then placed in a nitric-acid bath, where portions of the plate not treated with the acid protective are eaten away. These areas are the white spaces in the drawing. The acid has a tendency to "undercut" the lines of the drawing protected by the acid-resisting substance, and because of this, the plate has to be withdrawn from the bath and the protective material reapplied on several occasions.

Following four or five successive treatments of the plate in this manner, the "pen lines" appear at an elevation over the other portions of the plate. These raised edges constitute the printing surface that, when inked and printed, makes the facsimile reproduction of the original pen-and-ink drawing.

Wash Drawings

Drawings showing delicate gradations of tone, such as black-and-white wash drawings and pencil sketches, cannot be reproduced by the "line engraving" method, but by a process known as "halftone." In this method, the drawing is photographed through a "screen" made of two pieces of clear glass ruled with parallel black lines. The glasses are placed in a frame so that the lines cross at right angles. The screen is put in the camera in front of the negative, and when the drawing is photographed, it appears on the negative as a series of dots, some heavier than others, depending on the depth of tone in the corresponding portions of the drawing.

Half-tone negatives are printed on copper plates that are sensitized like the plates used in line en-

gravings. The plate is then heated, which gives to the parts to be preserved a hard surface capable of resisting the acid. Because of the nature of the half-tone, only one bath in the acid is necessary to develop a surface suitable for printing. Special re-etching of certain parts, however, helps increase contrast of values in the reproduction. Hand tooling also improves the printing qualities. As a final operation, both line engravings and half-tones are mounted on a base, usually of wood, so that the sum of the thickness of wood and metal equals the height of movable types, and so can be printed at the same time as text material. This method of printing is known as letterpress.

Color Reproduction

Reproducing a painting in color calls for an elaboration of the two processes mentioned previously. In designs where the pattern is composed of areas of flat color, such as in posters, a separate plate is made for each color and the plates are "registered"—each placed in the identical position of the others—so that the colors will be printed in the places corresponding to those in the original painting.

To reproduce a colored painting, an elaboration of the half-tone method is required. A separate plate is made for each of two, three, or four colors, depending on the kind of work and number of printings determined. Some paintings include colors that are difficult to reproduce with three or four printings, and a separate plate has to be added to accommodate this exception to the usual commercial color reproduction.

Following the theory that all colors emanate from the three primaries—red, yellow, and blue—or a combination of them, a painting in various colors is photographed three times, each time with a different color "filter" so that all elements in the painting containing red are recorded in their varying tonal values on one plate, all those possessing blue pigment are photographed on another plate, and all yellow on a third plate. As in the black-and-white half-tone process, the screen comprised of fine lines is used to break the solid tone pattern into dots, but since there are three plates each having dots, to avoid the dots falling on the plate

at the same corresponding places, each time a different color is photographed the glass screen is tilted at a different angle. In this way the different colors are distributed in small geometric patterns resembling hexagons which, when viewed from a normal "reading" distance, blend in the eye, producing the impression of the original painting.

Frequently, photoengravers depend on a fourth plate, to be printed in black or gray ink, to strengthen the dark and light contrast which they fail to obtain from the three color plates. As in painting, so in printing black dirties the colors and destroys their quality. Expert photoengravers, who are careful in the making of their separation negatives, obtain the best results in color reproduction from sets of three or more plates which exclude black.

Printing by Offset Lithography

The art of lithography was invented between the years 1796 and 1798 by a German musician and playwright named Aloys Senefelder. His chief interest was not in art, but was directed toward the discovery of an inexpensive method for reproducing his plays and music. After many attempts at using greasy inks and acids on metals and stone, it occurred to him that if he made his writing with a greasy ink drawn on paper, then transferred it to the face of a flat stone, and it came off the surface of the paper onto the stone, why could it not be transferred back again onto other paper? He experimented with the idea and it worked. This is the whole principle of lithography.

The "offset" is a development of this method for practical printing purposes. Printing papers, which come in direct contact with a surface as wet as a lithographic plate needs to be, wrinkle and dry unevenly, so some transitional step had to be devised to avoid this direct contact. The greasy lines and dots of the design are transferred from the wet plate onto a smooth sheet of rubber, then from the rubber "blanket" onto the paper. This process gives "offset" its name. It is also known as wet lithography.

In the preparation of the negatives for offset printing, the type to be used with the illustrations

has to be included and arranged as it is to appear in the finished product. The complete design in reverse on the negative is printed in a manner similar to that in photoengraving, on a thin, flexible zinc or aluminum plate which has been sensitized. The image of the design, stained on the plate, is treated so that greasy ink will adhere to it. The zinc plate is wrapped around a cylinder; the rubber blanket is around another cylinder, and the design is transferred as the two rotate in opposite directions and tangent to each other. The transfer from the rubber blanket to the paper is accomplished in a similar manner.

When the design is inked, a roller carrying moisture dampens the plate, but the design, susceptible only to greasy matter, repels the dampness. As the ink roller passes over the plate the situation is reversed: only the design portions of the plate receive it, and the dampened areas repel it. The dampening of the plate before it is inked for each impression causes the moisture that necessitates the use of the rubber blanket.

Artists preparing drawings to be reproduced by this process should intensify the tonal contrasts in the work because the range of tones from black to white which is possible in letterpress printing is reduced in scope in offset printing.

Printing by Intaglio Methods

Intaglio, one of the oldest of all methods of printing, is used where the image is engraved — depressed below the surface of the plate — so that an impression from it yields the design, as in copper and steel engravings. Bonds and currency are produced by this method. In the printing of many of our popular magazines and newspaper supplements, the plate is in the form of a copper cylinder, which may account for the term rotogravure.

By the use of flexible negatives the design is printed on the curved surface of the cylinder and etched, which causes depressions of varying depth. These depressions differ in the amount of ink they can hold, and this feature accounts for the wide range of tonal expression obtainable from gravure.

In rotogravure printing, the cylinder is inked all over its surface. The surplus of the ink lying on the surface of the cylinder is removed by a scrap-

ing device, known as a doctor blade, which wipes the ink from the face of the cylinder but leaves it in the depressions comprising the design. It is printed on paper fed from a roll, a process which speeds production and makes this method economical for large editions.

Students in the art profession should make every effort to visit printing plants that specialize in these varying methods of reproduction. To watch an engraving being made will teach more than long chapters of explanation, and the student will learn how to use the tools of his craft more practically if he visits the shops where artwork springs from one original piece of material to hundreds of thousands of reproductions.

Various Methods of Making Black-and-White Drawings

There are many methods, other than pen-and-ink drawings, for obtaining interesting effects in black and white. One of these is known as scratch-board, which in a way describes the method. A special board is used, having a white, chalky surface, which the artist covers with black ink, using a brush for this purpose. When the ink is dry, white lines may be easily scratched through the black surface with a sharp pointed instrument, such as the point of a knife blade. This method simulates the effect of wood engraving. Tones can be created by picking dots out of the black areas, and patterns may be varied by the crossing of lines.

Another patented product available to artists is Ross board, manufactured by Charles J. Ross Company of Philadelphia. These boards allow an artist to make a tone sketch, such as a pencil drawing, and have it reproduced by a line engraving. He may also make his drawing in ink over any one of eighty different patterns which serve as background "techniques," scratching portions of the pattern away and inking other portions of the drawing with pen or brush. Other boards have surfaces partly in relief and partly depressed so that drawings made with a pencil or crayon present areas of tone broken up by white lines forming patterns. Some effects are grained, others resemble textiles. This kind of patented board is

THE CRAFTINT PROCESS
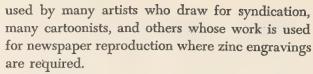
This drawing has been made on a board treated with certain chemicals so that as different acids are washed over portions of the drawing small black dots appear.

The first wash has been applied, which creates the effect of a mechanical Ben Day stipple. This, in its original size, was suitable for reproduction by the line-cut method.

A different kind of acid develops a different pattern. Instead of a dot formation, the tone was created by a pattern of lines crossing at right angles.

Another wash has darkened the dots in this tone pattern so that it simulates a half-tone. If it is not reduced too much when the plate is made, it might still be reproduced by the line-cut method.

used by many artists who draw for syndication, many cartoonists, and others whose work is used for newspaper reproduction where zinc engravings are required.

Some artists become quite proficient in making ink drawings with a brush whose hairs are made to separate, giving to the work a rough but spontaneous character. The method is known as dry-brush work, though, of course, the brush is not entirely dry when the lines are made. A brush full of ink that would make a solid line is avoided. Instead, the brush is used with the hairs pressed to a flat edge and only dampened by the ink.

Spattering ink by means of a toothbrush dipped in ink produces interesting effects. When the spatter is not wanted over portions of the drawing, those areas are painted, sometimes with opaque white, rubber cement, or gum arabic, which protects the white drawing board from the ink and which is easily washed away afterward. If waterproof ink is used, there is no danger of its running if it is allowed to dry before washing the "protective" materials away.

Other mechanical devices for obtaining patterned backgrounds in black-and-white drawings include the shading sheet mediums, which consist of thin, transparent sheets of acetate with opaque designs printed on them. Some of the patterns are black and some are white so that they can be used for positive or negative effects. A sheet of acetate is laid over the drawing, and portions of the mechanical effects not desired are removed by rubbing with a wooden stylus. In this method the original drawing is not affected, and the artist can see the complete effect of the application before sending the work to the engraver.

Photoengravers have many ways to help the artist obtain shaded effects in his work. One of the oldest and one that provides the largest number of varied patterns is known as Ben Day. These patterns do not have to be applied to the drawing; they are specified by the artist and incorporated into the printing plate by the engraver. Books containing samples of Ben Day shading mediums are obtainable from photoengraving companies.

There are many books available in art supply stores to aid the student who desires to specialize in black-and-white drawings with ink.

Comic Drawings

OREGOING CHAPTERS have presented a condensed version of the fundamentals of an art course similar to that given in any reputable art institution. It represents the basic information needed by an artist if he or she is to be equipped sufficiently to meet the varied demands of purchasers of art. It points the way for students who desire to acquire through practice a facility for drawing and designing. It cannot take the place of encouraging and sympathetic instructors — a warning that was given in the early pages of this book. It is a declaration of principles and serves as a forerunner to further study.

Instruction in drawing the human figure, portraits, animals, trees, articles displayed on the advertising pages of newspapers and magazines, and many other subjects is given in the following pages, some demonstrating the successive steps of a drawing or painting made by specialists in the various lines. Each subject or kind of merchandise presents a different problem and calls for a different treatment. In each, a special approach is made to the problem, and each approach is reviewed in an introductory preface to the subject.

The first of these subjects — the drawing of comics — has been chosen because it offers early satisfaction to anyone who devotes enough time and effort to following the lessons which have been prepared. Comic drawings are popular with nearly everyone. Regardless of an individual's special attainments, particular tastes, or cultural pursuits, there is hardly a person capable of reading who has not his pet comic character. Comic strips are

read with regularity by well over half of the nation's adults and two thirds of the children six years or older, an estimated 65,000,000 Americans.

Surveys have revealed that during the recent war comics were the favorite reading in military camps and naval bases, and many civilian committees collected the comic sections of Sunday papers and forwarded them to bases close to the war zones. Mrs. James Sullivan, of Australia, better known about thirty years ago in theatrical circles as Annette Kellerman, the "Diving Venus," instituted an agency in the South Pacific for the dissemination of comics received from the United States.

It is interesting to note that *The New York Times* is the only daily newspaper without comic strips. The *Daily News,* on the other hand, prints eleven comics. The difference in circulation between the *Times's* approximate 425,000 and the *News's* more than 2,000,000 may not be wholly attributable to the greater appeal offered by comics, but the statistics propose the conjecture. John Bainbridge, writing in *The New Yorker* about two years ago, said: "Four out of five persons who buy newspapers read comics, and it is a truism in newspaper-publishing circles that, next to the news itself, the funnies sell the papers."

Comics suggest, by the simple lines which compose them, that they are easy to draw. The student should not be so easily deceived. In the simplicity of the drawing many traits of character are shown, action is depicted, and a story is told. In the earliest comic strips on record — "Mutt & Jeff,"

The Origin of Mutt and Jeff
by John Wheeler
President, Bell Syndicate Co.

THE FIRST TWO newspaper comic strips were drawn by Bud Fisher and George Herriman. These were "Mutt & Jeff" and "Krazy Kat," and both started on the Pacific Coast simultaneously, according to historians who are older and, therefore, more accurate than this reporter. Bud (Harry Conway) Fisher was working on the *San Francisco Chronicle* in the art department, about one cut above an office boy. Occasionally he could afford to go to the race track across the bay, via a press badge, and he noticed the acquisitive bettors seeking inside information, all of them cut on the same pattern — a long nose which could be stuck into everybody's business was a characteristic feature.

One night Fisher drew a strip and called his character "A. Mutt." It did not resemble very much the refined products of nowadays because of its shallow depth, and it was intended to extend across eight columns on the newspaper page. He showed it to the managing editor, John P. Young, who decided to run one of them. It caught on immediately, and was the start of "Mutt & Jeff." Mutt himself was so successful in picking winners that the strip accumulated a big following among race-track fans. Jeff subsequently came into the daily drawing after Fisher had transferred to the *San Francisco Examiner*.

Trademark registered by H. C. Fisher.

"Foxy Grandpa," "Buster Brown" and his dog Tige, "Little Nemo," and Palmer Cox's "Brownie" books; all classics of a generation ago — the drawings were the products of careful technicians, artists who were master draftsmen. Today, as yesterday, expert draftsmanship prevails. Alex Raymond, who draws "Flash Gordon"; Harold Foster, who draws "Prince Valiant"; Milton Caniff, creator of "Terry and the Pirates"; Fontaine Fox, who amuses millions with "The Toonerville Trolley" and "Wilbert"; and H. T. Webster, creator of "The Thrill that Comes Once in a Lifetime," "How to Torture Your Wife," "The Timid Soul," "Life's Darkest Moment," and the "Bridge" series — all are artists thoroughly trained in the academic principles of the business.

Ideas for comics result from the natural froth of everyday circumstances. "The Toonerville Trolley" had its beginning back in Louisville, where its counterpart ran on the Brook Street line, but it did not appear in Mr. Fox's cartoons until years later, when it was recalled to his mind by seeing a similar conveyance while visiting Charles Voight, cartoonist and the creator of "Betty," in Pelham, N. Y.
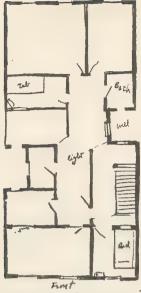
When the Pelham line was discontinued several years ago to make way for the modern busses, such fame had come to it through Mr. Fox's cartoons that its passing received national comment.

Jefferson Machamer, writing from his plantation in North Carolina, says that he gets the gags for his comics from his wife. It happens like this:
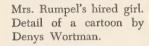
"I'll be wearing my air-raid helmet for the first time, and ask my beautiful wife how I look. She'll say, 'Becoming, yes. But don't let it get you started on derbies again.' It strikes Gurney Williams, at *Collier's*, and me as funny, so I draw it up and get paid.
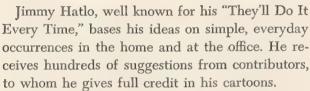
"One night I'm having a snack of fingernails, listening to the Lone Ranger, and the b.w. says, 'Mark my words, Jefferson, the Lone Ranger will one day involve himself inextricably, Tonto notwithstanding!' and *The Saturday Evening Post* buys it.

"And, during the hoarding era, I suggested that my wife and I chip in and buy a crossroads grocery store near by, move in, and thus keep from hoarding. *Collier's* again. Gags just happen, and not often enough!"
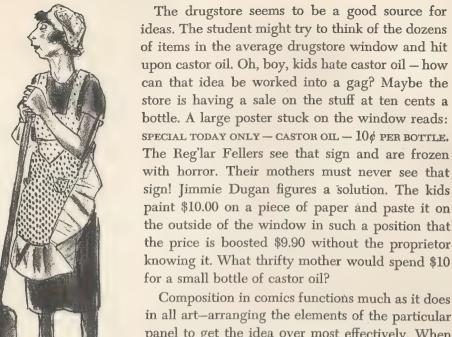
Sketch plan of Mrs. Rumpel's Rooming House, an actual boardinghouse in the Bronx, N. Y.

Mrs. Rumpel's hired girl. Detail of a cartoon by Denys Wortman.

Jimmy Hatlo, well known for his "They'll Do It Every Time," bases his ideas on simple, everyday occurrences in the home and at the office. He receives hundreds of suggestions from contributors, to whom he gives full credit in his cartoons.

Denys Wortman, creator of "Metropolitan Movies," prepares his character studies from the products of extensive research. Every episode pictured in Mrs. Rumpel's Rooming House has an absolutely authentic setting.

The ideas for "Reg'lar Fellers," comic strip by Gene Byrnes, stem from situations that arise among the many incidents in the daily lives of boys and girls, as they attend school, play games, imitate their elders, go fishing, run errands, and so on. As an example, consider the wealth of material suggested in a trip to school. The children pass stores and look in windows, they might pass street-repair gangs, open manholes, street hawkers, dozens of things to which they react with frequently amusing results because of their quizzical natures and their natural appetites for new experiences. It is by looking for such possibilities that the gags are developed which ultimately find their way into the strip.

The drugstore seems to be a good source for ideas. The student might try to think of the dozens of items in the average drugstore window and hit upon castor oil. Oh, boy, kids hate castor oil — how can that idea be worked into a gag? Maybe the store is having a sale on the stuff at ten cents a bottle. A large poster stuck on the window reads: SPECIAL TODAY ONLY — CASTOR OIL — 10¢ PER BOTTLE. The Reg'lar Fellers see that sign and are frozen with horror. Their mothers must never see that sign! Jimmie Dugan figures a solution. The kids paint $10.00 on a piece of paper and paste it on the outside of the window in such a position that the price is boosted $9.90 without the proprietor knowing it. What thrifty mother would spend $10 for a small bottle of castor oil?

Composition in comics functions much as it does in all art—arranging the elements of the particular panel to get the idea over most effectively. When the idea for the strip is determined, you select your main character or main action and make it the center of interest in your drawing. This center of interest can be further emphasized by drawing it with heavier lines or making portions of the central figure solid black, to draw the attention of the reader to it. Backgrounds, which are introduced to suggest locale and atmosphere, are usually kept light but are not neglected or treated with indifference. In "Terry and the Pirates" Milton Caniff works hard, not only in drawing but in plotting his stories, checking up on such details as weapons, costumes, locale, and backgrounds, and, finally, in keeping each individual strip an interesting part of the whole continuity. He keeps a scrapbook and reference library to aid him in his research on foreign lands.

Action is the essence of comic drawing, and to intensify the effect the action is often exaggerated. To study action in its simplest form, a series of lessons have been prepared, beginning with the matchstick figure. Regardless of the amount of art training a person has had, matchstick figures are fun to draw and are within the ability of anyone to execute. With these as a beginning, the curtain rises on the prospects of every student. How proficient he becomes depends upon himself and upon the time and effort he devotes to his adventure in art.

"Mrs. Rumpel's Rooming House," by Denys Wortman

REDUCED IN size, this drawing shows Mr. Wortman's method of working. Using a pebbly surfaced board, he draws freely with pen and ink, strengthening with a brush certain lines which define the chief characters. The tone is applied with a lithographic pencil.

"You'll get acquainted very easily here. The other roomers will start borrowing from you right away."

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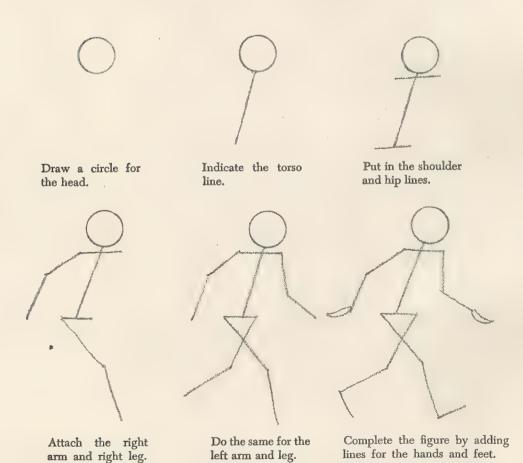
How to Draw a Matchstick Figure

As A preliminary step to cartooning or the drawing of comic strips, matchstick "skeletons" play an important part. They will familiarize you with the proportions of the human figure, in a general way, and will aid you to get the action desired into your drawing. They also serve as a foundation for all drawing, because they begin a student in the good practice of blocking out his work, a method used by all artists, as demonstrations on following pages will prove.
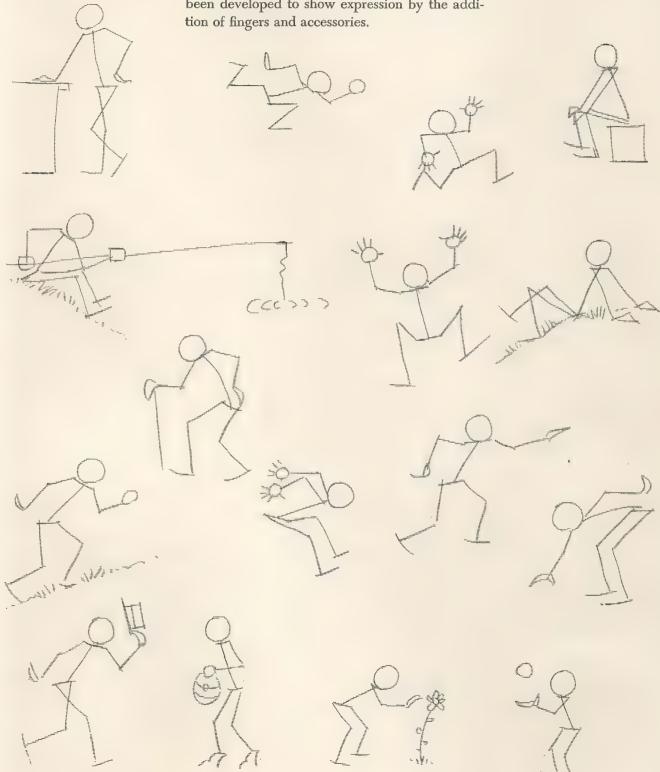
The only materials needed at this time are:

Pencils, grades B and 3B
Typewriter paper for practice work
Art gum eraser
Ruler, possibly

Below is a matchstick drawing in six stages. It represents a man walking. Observe that when the right leg swings forward, the right arm swings backward, while the co-ordination is reversed on the left side. Copy this exercise, then develop similar figures of your own in various actions.

Draw a circle for the head.

Indicate the torso line.

Put in the shoulder and hip lines.

Attach the right arm and right leg.

Do the same for the left arm and leg.

Complete the figure by adding lines for the hands and feet.

Copy EACH figure carefully, then try to originate
some of your own. In some of these, the hand has
been developed to show expression by the addi-
tion of fingers and accessories.

Drawing the Head — Profile

1. We will now start a development of the matchstick figure, beginning with the circle that represented the head. Draw the circle in pencil lightly. The following progressive steps use this one circle only.

2. Divide the circle into four quarters. We are now ready to put in the features. First, place a dot for the eye on the horizontal line near the circumference of the circle.

3. Start the ear at the center of the circle where the lines intersect. The ear should curve rapidly at the top, then pass across the horizontal line, terminating at the vertical line below the intersection.

4. Sketch the complete profile lightly, noting the position of the hair, nose, mouth, and chin in relation to the circle. The arched eyebrow brightens the expression, while the line forming the cheek, leading from the nose to above the corner of the mouth, creates the effect of a smile.

5. The student should now obtain a bottle of black waterproof India ink and a fine pointed pen, preferably a quill, Gillott 170, or Spencerian. Ink in the outlines, and when ink is dry, erase the pencil lines.
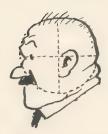
6. Using a small camel-hair or sable brush, paint in the solid area representing the hair. A brush is suggested for all solid blacks because it damages a good pen to use it for this purpose. In these simple comic drawings, try to keep the line uniform in thickness.

Profile

EXERCISES
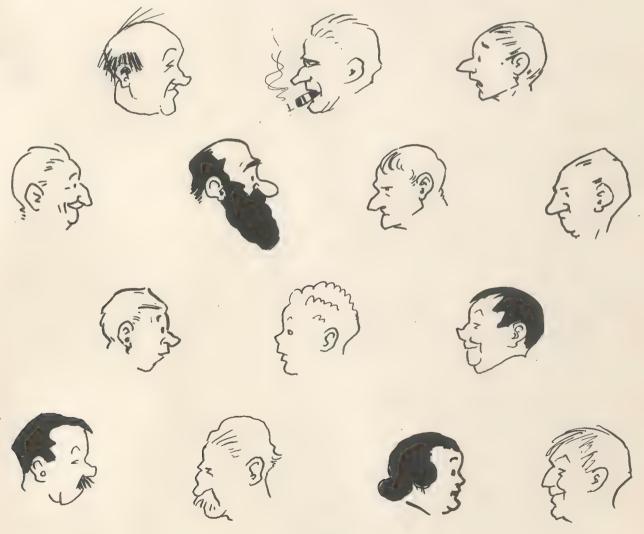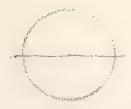
THERE ARE no two heads exactly alike. Some foreheads are higher, some chins longer, some heads protrude beyond the circle above the eye level while the face below the eyes recedes within the confines of the circle.

Above, some examples of exaggerated profiles,

with the guide circles indicated, show possibilities for determining character. Below are a number of profiles for the student to copy. Note the simple indication of hair, and how the straight eyebrow denotes a sternness; the z-shaped eye a squint, and the protruding chin, a tough appearance.

Three-Quarter View

1. The three-quarter view of the head is the one you will have occasion to draw most frequently. Start with a circle, just as you did in drawing the profile head, then divide the circle in half by drawing a horizontal line through the center.

2. Now draw a curved line from top to bottom of the circle, intersecting this horizontal line midway between the center of the circle and the right-hand edge. This will establish the center of the face. To avoid making the head too circular, draw two vertical lines near the outside edges of the circle.

3. You are now ready for the features. Place the eyes on the horizontal line, equidistant from the inner curved line. Draw the ear at the intersection of the horizontal and vertical lines.

4. Use the inner curved line to center the nose, mouth, chin, and hair. The contour of the face on the far side should roughly correspond with the vertical line, the cheek-bone being suggested slightly below the level of the eye.

5. Ink in the features and the outline of the head, and, when ink is dry, erase all pencil lines. Keep the shape of the locks of hair simple, as they are only outlines.

6. Use a brush to fill in the solid blacks, as you did in the study of the profile head.

Three-Quarter View
EXERCISES

Above, various characters are shown in three-quarter view. With those facing to the left, the curved line which establishes the center line of the face passes between the center of the circle and the left-hand edge.

Below are many examples. When drawing the old man on the top row, draw the outline of the face before attempting to add the whiskers, otherwise the bony structure of the face may be lost.

Note also that there are no blacks in this drawing; white hair indicating the mustache breaks up the line of the mouth, and the long eyebrows break up the shadow of the eye socket.

Copy all of them, then try to draw them from memory. Avoid the habit of drawing only certain faces at the beginning of your practice. When you have become proficient in drawing many types of characters, originate a few of your own.

Simple Facial Expressions

WELL-DRAWN facial expressions have more to do with putting over a good cartoon idea than any other single element. They reduce the need of explanation in the story. Practice these heads in pen- cil exactly as they appear on this page. When you feel you have mastered them, try using them in other positions than the ones in which they appear below.

LAUGHTER　　　　HILARITY　　　　CHUCKLE　　　　GIGGLE

DISGUST　　　　PLEASURE　　　　AMUSEMENT

DOUBT　　　　CYNICISM　　　　ANGER　　　　WONDER

FRIGHT　　　　HORROR　　　　WINK

AMAZEMENT　　　　PEEVE　　　　CURIOSITY　　　　SNEER

CRYING　　　　WEEPING　　　　FROWNING

Some Facial Expressions for the Advanced Student

IF YOU FEEL that you have mastered a good working technique for drawing simple cartoon heads with a circle as a guide, begin a study of facial expressions in a wider range of characterizations. In the sketches below and those which follow on succeeding pages, the artist's knowledge of anatomy is cleverly concealed in the simple lines which form the heads. They make fine objects for the prospective cartoonist to study. The chief difference between these drawings and the ones on preceding pages lies in the use of shadow. Practice shading with the pen so that the lines are light and suggest the planes of the face by their direction.
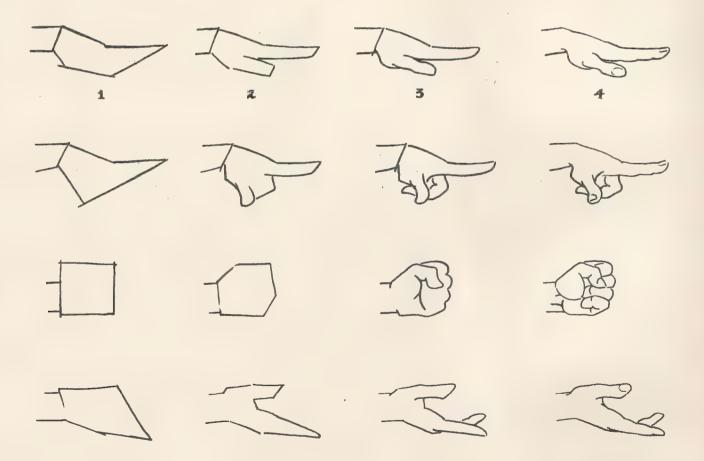
LAUGHTER	ANGER	FRIGHT	SURPRISE	SEVERITY
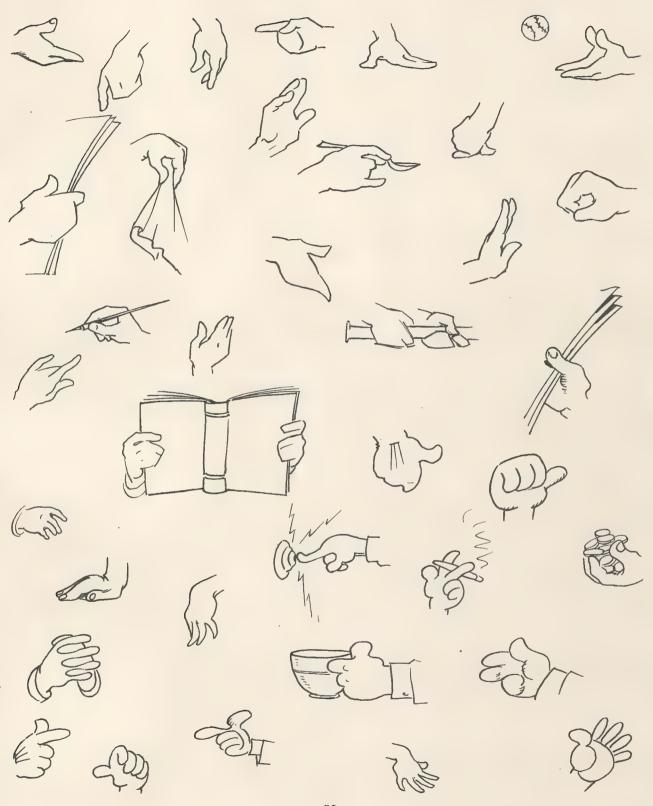
Drawing Hands for Comics

HANDS HELP to emphasize action and are used in nearly all comic drawings. In comic characters, where the features are drawn grotesquely and no strict attention is given to anatomy, hands are frequently rendered as though they were encased in a pair of garden gloves. The majority of comic-strip cartoonists show care in the way they indicate the hands of their characters.

A practical method for the student to adopt in drawing hands is to sit in front of a mirror and use his own as a model. Begin by blocking out the whole hand and wrist, modeling the fingers when the action of the hand has been defined.

You will notice that the back of the hand is quite flat except when the hand is clenched. The fingers taper; the middle finger is usually the longest, and the little finger is slightly more than half the length of the longest. When the hand is clenched, the tips of the fingers form a line with the first joint of the thumb. Study your hands carefully and sketch them in a variety of positions. In comic drawing, avoid such details as fingernails and the lines that denote veins and wrinkles. Hands drawn in four progressive steps are shown below. Practice drawing these, then copy the variety offered on the following page.

1   2   3   4

Drawing Hands for Comics

Drawing Feet for Comics

SHOES HELP to define the character depicted in the cartoon, and therefore you should give them considerable study. Neatly dressed feet are a source of pride with women, and when the "smart" girl is suggested in a comic drawing, small flashy pumps should be shown. Helen Hokinson's humorous impressions of the typical American club and society woman show shoes too small for her pudgy feet, as though they were thoroughly uncomfortable. Jefferson Machamer caught the spirit of the flapper, a popular type of a generation ago, in his drawing of her sloppy galoshes, and today he shows the flapper's daughter in very high heels.

Spats were used by both MacGill, as foot apparel for his "Hall Room Boys," and McManus, for Jiggs in his famous "Bringing Up Father"

strips. They helped to suggest the proper costume for the adventurous "gate crashers" in the first instance, and the stylish ex-bricklayer in the second. The "sausage feet" used on many comic characters are appropriate when the rest of the costume also suggests an untailored man.

Drawing the shoes in your clothes closet from a variety of angles is a good way to practice this important detail of the cartoon. You will observe that the line of the arch is more pronounced on the inside of the foot than on the outside, and this difference will frequently be enough to signify the right or the left foot. In dressy shoes, the toes are pointed; in men's shoes, the lines are angular; in women's, they are sweeping and graceful. Below are shown many helpful suggestions.

Construction of the Outline Figure

1. Beginning with the matchstick indication, the policeman is devised in the attitude of pondering over a problem in jurisprudence. His hand covers his mouth, with the right arm supported at the elbow by the left hand. It is a natural pose. Try it, using yourself as a model before a mirror. The legs are spaced apart, the weight of the figure settled back on the heels.

2. We build on this framework, developing the head, the cap, the coat, the arms, the hand, the legs, the shoes, and the stripe on the trousers, in the order named. Practice drawing these complete figures with single lines; too many lines will make it difficult to select which one is to be inked.
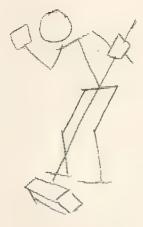
3. When you have all elements of the figure determined in pencil, go over the outlines in ink. The braid on the policeman's sleeve, the details on his hat, and the wiggles in the stripe on his trousers, which indicate a wrinkle, are all developed at this time. When the ink is dry, erase all pencil lines. With practice, your completed figure should look like this.
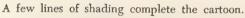
Drawing the Complete Figure
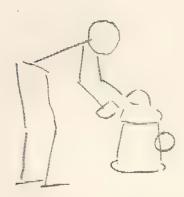
Constructing the Complete Figure
with Shading and Accessories

A few lines of shading complete the cartoon.

Note the direction of the lines which form the shadow on the curb and sidewalk.
They suggest the vertical face of the curb and flat plane of the sidewalk.

Steam coming from the saucepan adds interest.

Two Characters

WHEN TWO figures are used, they should be developed in the same manner as was used for the single character. Contrast in the treatment of the figures should be practiced to make them stand out, sometimes by size and sometimes by the details of the costumes—white against black, checks against solid color, and flower patterns against plain material.
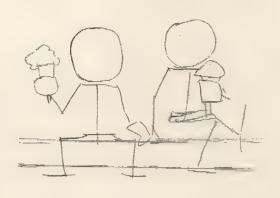
TWO CHARACTERS

Drawing Objects for Comics
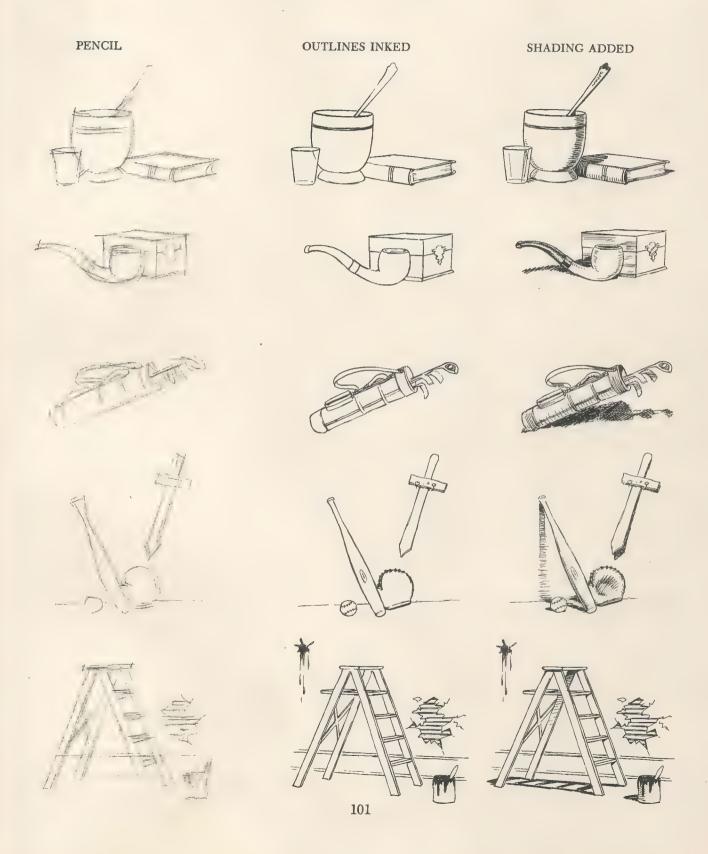
A WIDE VARIETY of objects is required to help the characters in comic drawings to act out their many situations. The cartoonist should practice this phase of his art so that every object is clearly distinguishable to the reader. A mail-order catalogue will supply an ample number of these items. Newspapers and magazines are full of them. Draw them in simple outline. They require very little shading because they are usually part of the background material in the cartoon.

Now DRAW a few objects a little larger, laying them
out more carefully, inking them in in outline, and
then applying a little shading.

PENCIL　　　　　　　OUTLINES INKED　　　　　SHADING ADDED

Drawing Animals for Comics

THE DOG IN THE "REG'LAR FELLERS"

Daily Strip by Gene Byrnes

THE ORIGINAL dog from which the caricature in the "Reg'lar Fellers" strip was developed was the pet of Mr. Byrnes a number of years ago. He spent many hours sketching the pup in every kind of action. Little "Jimmie," as he was called, was a sort of dynamo, and his exuberance qualified him eminently as the constant companion of the "Reg'lar Fellers." A dog so full of life is not easily drawn from nature, so to speak; sketches of him must be made mostly from memory after a long intensive study of his various actions. Give thought to the bone structure of the animal, especially the construction of the front and back legs. It is with these details that most students go wrong.

102
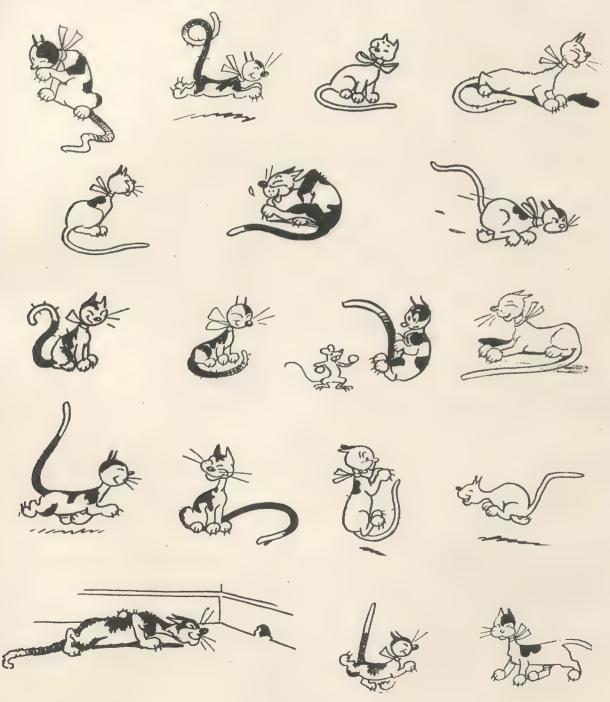
Cats

CATS ADAPT themselves to comic-strip purposes readily because their emotions can be humanized, a device that lends itself to comedy. They are by nature selfish, carnivorous, ever seeking comfort and attention. Patience and a singleness of purpose are also outstanding characteristics. Probably the most graceful of animals in action or in re-

pose, they are a favorite with artists who specialize in animal drawing.

Practice drawing the cats shown below, then study the drawings of tigers by Paul Bransom on pages 212 and 213. Observe that the heads in the comic drawings which are reproduced below are developed on a circle.

Goats and Other Animals

A GOAT IN caricature is always good for a smile because it fits into so many humorous situations. Traditionally the gourmand of the rubbish dumps, the goat always presents a light touch when shown feasting on a tin can. The goat's chin whiskers also aid the cartoonist in caricaturing the professorial aspects of the animal's appearance.

The napkin tied around the mouse's neck points up the humor of that sketch. He is obviously tackling the cheese with great relish.
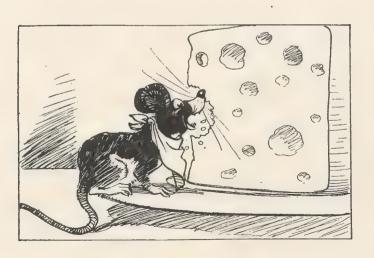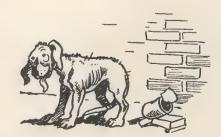
Animals by Ed Nofziger

ANIMALS ARE used to express humorous situations by presenting them doing things humans would do, and responding to circumstances in a human-like way. We enjoy our own shortcomings more when we see them displayed in other people's actions, and they are caricatured for us when these human frailties are attributed to animals. Showing animals doing things they are not expected to do "crosses up" the reader who has believed in the consistency of his actions. Mr. Nofziger's sketches retain the characteristics of the animals but give them human expression.

"So I told him he came from an egg.
How I dread the next question!"

"This is the happiest day of my life."

"Meow!"

"Now, watch carefully. I want you to
guess which shell I'm under."

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Construction of the Complete Figure

ELEMENTARY ANATOMY
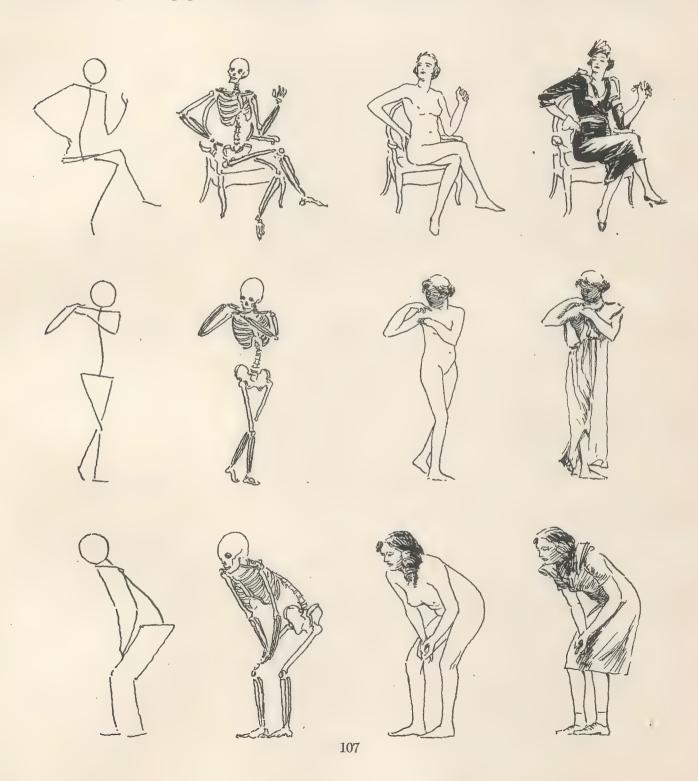
This shows how successfully the matchstick figure serves as a basis for constructing the human figure. The skeleton is developed from the matchstick, over which the flesh is indicated, and finally the clothes are added. An understanding of the bones in the skeleton, where they are located and how they function, will help the student to construct his figures in action. In these sketches a general idea is given as to how the skull is attached to the spinal column, the arms to the shoulders, and the legs to the pelvis. For further study, refer to the chapter on "Drawing the Human Figure."

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Elementary Anatomy

THE SOONER a student familiarizes himself with the structural framework of the human figure, the sooner he will feel free to construct his figures in every conceivable position. Using matchstick figures shown on previous pages, construct the skele- ton, then see how much more easily the flesh is rounded in the drawing of the nude. It will also be observed that the costumed figure is easier to draw when the nude is sketched as a preliminary construction.
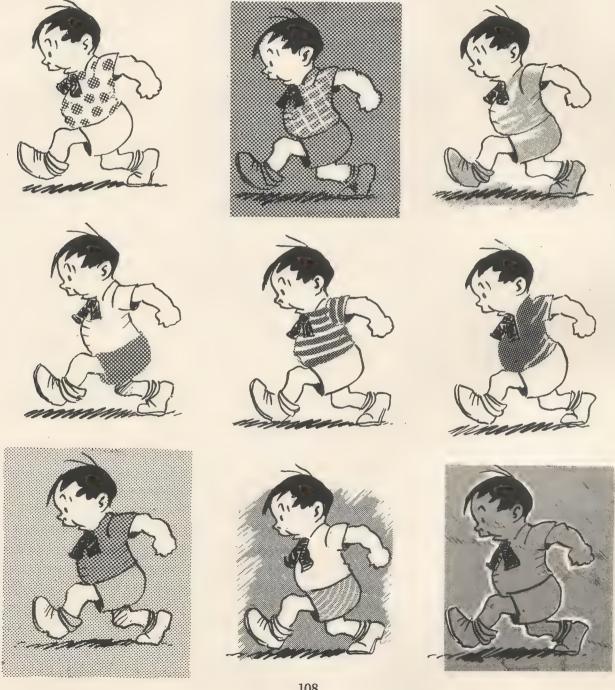
Drawing the Complete Comic

THE USE OF PATENT SCREENS

SHADING SHEET mediums were mentioned on page 79 in the foregoing chapter, "The Artist Selects His Medium." They are sheets of acetate having a variety of patterns, some in white and some in black, which may be laid over a drawing to give a shaded effect. These screens are used frequently in comic drawings. They save the artist a tremendous amount of detail work and simplify his problem of preparing his drawing for successful reproduction. Two different screens were used in the drawing in the lower left-hand corner for the shirt and the background and trousers.

Developing a Situation

A SITUATION IN a comic drawing is not always the idea that carries the "gag"; it is but an incident which gives additional interest and atmosphere to the single panel. In the butcher-shop drawing, while the boys wait for their parcel, the dog waits on himself. The woman knocking on the door seems to be surprised that no one answers. The action is simple, but a story is told.

Think up similar situations and practice drawing them in single outline, developing them in stages in the same way all previous steps in these lessons have been taken.

Exercises for Advanced Students

THESE SKETCHES, taken at random from drawings for "Reg'lar Fellers," embody the use of pen-and-ink shading, object drawing, animal drawing, shading sheet mediums, and a comic situation. The development of each drawing follows the same method as all previous exercises. Two details in these drawings deserve special mention. The clothespin that holds up the dog's ears is placed so that it commands immediate attention,

and is further emphasized by the black ears. Also observe that the tail of the dog curves so that its tip seems to point to the clothespin.

In the sketch of the sardine can, oil dropping from the fish adds a realistic effect and suggests the action. The curled-up cover of the can has been carefully drawn. Practice such details to help make each drawing of yours definite in its information.

The shading on the dog is done on chemically-treated Craftint paper.

For Advanced Students

THIS GROUP of drawings emphasizes the use of light and shade in comics that require more careful development than is usually accorded the daily strip. It is more common in the treatment of the Sunday page. Observe the free sweep of the pen line, how it suggests the direction of the action of the fish, and the rays of light in the sketch of the burglar. Draw these subjects many times with the view of acquiring a "loose" technique. Spontaneity in the effect defines the professional touch, and this quality makes a good yardstick with which to judge one's progress in this work.
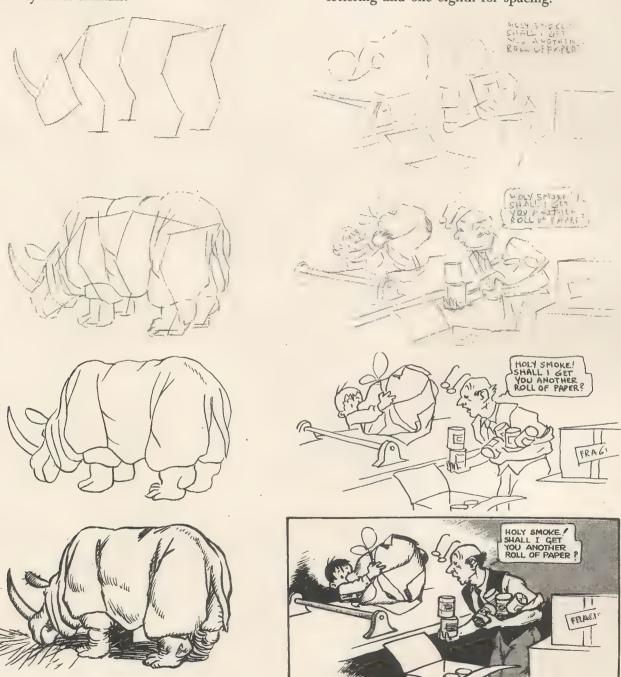
For Advanced Students

Here, both the comic panel and the animal are developed a step further. Animals are used frequently in comic strips, and the student could profitably spend considerable time drawing them. In a following section of this book, this phase of the artist's training is treated by specialists in animal drawing. Practice sketching this rhinoceros, then try other animals.

In the comic panel, the irregularly shaped box that contains the remark is known as a "balloon." These balloons should be placed as near as possible to the character uttering the words and so that they do not interfere with the action in the drawing. Guide lines for the lettering should be drawn one-eighth inch apart—one eighth for the lettering and one eighth for spacing.

For Advanced Students

These drawings are taken from actual strip cartoons of "Reg'lar Fellers," by Gene Byrnes.

Arranging the Different Elements

EACH PANEL OF the comic strip presents a problem in composition. As explained in the foregoing chapter on design, the most important element in the picture should be placed where the eye of the observer will apprehend it in the first glance. Other elements in the arrangement should be subordinated to the main center of interest, both by their position in the picture and the degree of contrast of tonal values created in the development of them. The center of interest in the top drawing is the two boys. Puddinhead and Jimmie, leading characters in the "Reg'lar Fellers" strip, are drawn much more heavily than the baseball game in the background, which is used solely for atmosphere. In the lower drawing, Jimmie is again featured by the heavier treatment. The dog also directs the eye to Jimmie and sets up an additional interest in the picture.

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Developing a 4-panel "Daily" Strip

(1) Draw the panels and rule lines for lettering. The remarks should be determined at the same time as the idea, and lettered in when the matchstick figures are sketched in pencil.

(2) Draw the balloons around the lettering, and draw completed figures over the matchstick indications. Then sketch in the necessary background. All this should be done in pencil.

(3) Draw over the lettering, balloons, figures, and backgrounds in ink outline. When ink is dry, erase the pencil marks.

REG'LR FELLERS

By GENE BYRNES

(4) Add shading desired, shadows, and solid-black areas, and the strip is completed.

The Pretty Girl in Caricature

as drawn by Jefferson Machamer

JEFFERSON MACHAMER, delineator of pretty girls, developed his style when he did the theatrical page for the old comic weekly, *Judge*. His drawings are flashy impressions of modern girls, tall, smart, and styled to the minute. He does not pose his models, as he believes this results in a "posey" picture. Instead, he prefers to have his models walk around, sit, stand, or do anything they please. When he sees an action worth drawing, he asks the model to hold the pose while he rapidly sketches it. In this way he gets naturalness into his work. Below are some examples of Mr. Machamer's style, and on the following page are shown successive steps in the development of his girls.

How Mr. Machamer's girls take shape.

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as drawn by Russell Patterson

"Betty," by Charles A. Voight

A MASTER OF pen and ink, Mr. Voight earned his reputation as an illustrator with his drawings of beautiful girls. He dressed his women in the height of fashion and rendered them with swift strokes of his pen that give freshness and spontaneity to his work. His pen line varies from a delicate suggestion of facial features to a broad accented line in the shading of the hair, garments, or shadows.

Reprinted through the courtesy of the New York Herald Tribune

Well-known Comics and Their Creators

"Prince Valiant," by Harold Foster

ANOTHER outstanding draftsman in the cartooning field is Harold Foster, who tells a story with the court of the legendary King Arthur as a background. Details of the interesting characters are carefully studied, and each panel is a fine example of superior composition. "Prince Valiant" can

hardly be called a comic; even the balloons are treated in a more conservative way, and appear as captions in many instances. Below, Mr. Foster demonstrates the development of one of his drawings in four stages, from the preliminary sketches to the finished product.

HAL FOSTER

PAIN AND DESPAIR ARE HIS COMPANIONS THIS NIGHT. HE, WHO HAD TROD THE PALACE OF KINGS, LED ARMIES AND SAT AT THE ROUND TABLE, IS A SLAVE, WHIPPED ON A PETULANT GIRL'S WHIM! IN HIS HEART IS MORE HATE THAN IS GOOD FOR A LAD OF SEVENTEEN.

120
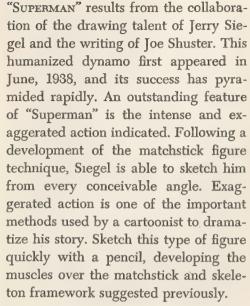
"Superman," by Jerry Siegel and Joe Shuster

Before Superman leaps from Siegel's drawing board . . .

he takes form in a sketchy outline which suggests . . .

the power of his exaggerated muscles.

Copyright, 1947, by National Comics Publications, Inc.

"SUPERMAN" results from the collaboration of the drawing talent of Jerry Siegel and the writing of Joe Shuster. This humanized dynamo first appeared in June, 1938, and its success has pyramided rapidly. An outstanding feature of "Superman" is the intense and exaggerated action indicated. Following a development of the matchstick figure technique, Siegel is able to sketch him from every conceivable angle. Exaggerated action is one of the important methods used by a cartoonist to dramatize his story. Sketch this type of figure quickly with a pencil, developing the muscles over the matchstick and skeleton framework suggested previously.

"Terry and the Pirates," by Milton Caniff

ONE OF THE most carefully drawn comic strips, "Terry and the Pirates" is in the illustrative style — that is, the characters and backgrounds are rendered with little or no exaggeration. From the technical point of view, the success of the strip is based on its strong composition. Mr. Caniff uses black and white in solid areas, and rarely introduces a middle tone. This necessitates well-studied arrangements, to avoid confusion between the various elements of his pictures. The size and position of the balloons are given the same consideration in each composition as the figures; they are not afterthoughts. To the right, Mr. Caniff shows how he develops a single panel of his strip in three stages.

1. Lettering and figures are sketched in with a 2H pencil and drawn more carefully afterward in single outline.

2. Balloons, heads, and figures are then inked in outline, using a 659 Crowquill pen. Backgrounds are sketched in pencil.

3. Background is inked, and solid darks to indicate light and shade are drawn with a No. 3 brush.

Copyright, 1943, News Syndicate Co., Inc.

Drawing the Single-panel Comic

The Characters of Fontaine Fox

SINGLE-PANEL cartoons, usually two or three newspaper columns in width, require the telling of the whole story at a glance, with the aid of a few words. This style of presentation was used originally by cartoonists for projecting political ideas, but is now utilized in both newspapers and magazines for comic purposes. Among the first to develop the single panel humorously was Fontaine Fox, whose wide variety of characters are nationally popular.

Mr. Fox has developed a style distinctly his own. In a sketchy manner he indicates hands, feet, and faces in a simple but amusing way. Working in a heavy outline, he resorts frequently to bird's-eye views which give the observer an all-around grasp of the situation depicted.

Copyright, McNaught Syndicate, Inc.

The Characters of H. T. Webster

THERE IS A homely human quality about Webster's humor that has an irresistible appeal. Almost everyone who plays cards follows "Poker Portraits" and "Bridge." Webster's understanding of life's complexities is well expressed in his pictures of "How to Torture Your Wife"; his fondness for depicting boyhood memories is shown in "The Thrill that Comes Once in a Lifetime" and "Life's Darkest Moment." "The Timid Soul" is Webster's most sympathetic character and has justified Charles Dana Gibson's remark, "Webster has a knowledge of human nature that is unsurpassed."

Working in pen and ink, he obtains the simplest effects, frequently inking solid his chief character, and leaving the rest of the drawing in outline. Tone is used more for compositional purposes than for "prettying up" the figures.

Copyright, 1942, New York Herald Tribune Syndicate

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The Work of Lichty

MR. GEORGE MAURICE LICHTENSTEIN, or "Lichty" as he signs his drawings, works in a free and sketchy manner as he develops his compositions, using pen and ink and crayon for his newspaper cartoons, and water-color wash for his work which is reproduced in magazines.

GRIN AND BEAR IT   **By Lichty**

"It's a laugh when I think of last New Year's eve, when I blew a 10 cent horn and thought I was making noise!"

"They'll Do It Every Time,"
by Jimmy Hatlo

JIMMY HATLO's cartoons are hilarious without being mean or vicious. They are based upon everyday occurrences, the ideas being contributed by his readers. A good suggestion for the student is to observe the exaggerated expressions, simplicity of drawing, the spacing of the balloons, and the naturalness of the composition.
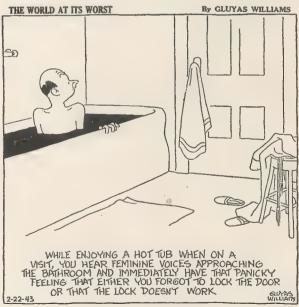
The Work of Gluyas Williams

MR. WILLIAMS shows how much can be expressed in simple lines with black areas adroitly distributed and painted in. The solid blacks are placed on or around the central figure; the secondary material is rendered in outline, almost diagrammatically, and all nonessentials are eliminated. His subjects, which seem to squirm through the involved social scheme of suburban life, show the artist's deeply rooted sense of comic values drawn from ironic circumstances in life. In the place of balloons, used by other cartoonists, Mr. Williams states his situation as a caption under the drawing.
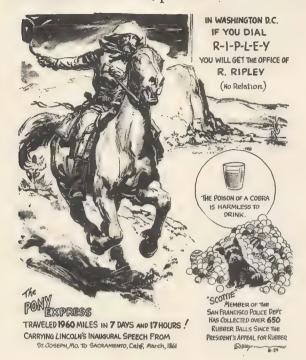
Courtesy of The Bell Syndicate, Inc.

Newspaper Features in the Cartoon Style
"Believe It or Not," by Bob Ripley

INTERESTING information, presented as a cartoon, has become a popular variation of the single-panel comic.

IN WASHINGTON D.C.
IF YOU DIAL
R-I-P-L-E-Y
YOU WILL GET THE OFFICE OF
R. RIPLEY
(No Relation.)

THE POISON OF A COBRA IS HARMLESS TO DRINK.

The PONY EXPRESS
TRAVELED 1960 MILES IN 7 DAYS AND 17 HOURS! CARRYING LINCOLN'S INAUGURAL SPEECH FROM
ST. JOSEPH, MO. TO SACRAMENTO, Calif, March, 1861

"SCOTTIE"
MEMBER OF THE SAN FRANCISCO POLICE DEP'T HAS COLLECTED OVER 650 RUBBER BALLS SINCE THE PRESIDENT'S APPEAL FOR RUBBER

AIRPLANES ARE MADE OUT OF SEA WATER!
MAGNESIUM, THAT WONDER METAL USED IN PLANE CONSTRUCTION, IS MANUFACTURED OUT OF SEA WATER —
MAGNESIUM IS LIGHTER AND STRONGER THAN ALUMINUM

THE WALRUS —MOST VICIOUS LOOKING ANIMAL —SOMETIMES 20 FT. LONG AND WEIGHING A TON IS VERY TIMID AND ASKS ONLY TO BE LEFT ALONE

HEN LAYS PERFECTLY ROUND EGGS Owned by MARY HEATH Aukney, Iowa

THE OWL BOY HARLAN ESCHERICH AGE 6 - CANNOT SEE IN THE DAYTIME BUT HIS VISION IS PERFECT AT NIGHT
Lake Mills, Iowa

EMERY DEUTSCH
Orchestra Leader
WAS BORN THE 12TH DAY OF THE 12TH MONTH IN 1912 IN MILWAUKEE, THE 12TH LARGEST CITY

HE BEGAN STUDYING THE VIOLIN AT THE AGE OF 12 — HAS BEEN AN ORCHESTRA LEADER 12 YEARS AND HAS 12 MEN IN HIS BAND

MAH ONE
A CHINESE— WAS THE FIRST PATIENT TO BE ADMITTED TO THE VETERAN'S HOSPITAL in Cheyenne, Wyo.

The DAISY WAS FIRST CALLED "DAYS EYE" BECAUSE IT OPENED ONLY IN THE DAYTIME

FOR 60 YEARS THE PRICE OF COTTON HAS BEEN DAILY REPORTED TO THE GRAVE OF AL McGEE -Glennille, Ala. IN RESPECT OF HIS DYING WISH

got to get up, you've got to get up, you've got to get up this morn—

THE BUGLER DOES NOT PLAY A BUGLE — HE PLAYS A TRUMPET! THERE IS NO SUCH RANK AS "BUGLER" ANYWAY

JOE NORDQUEST LIFTED 362½ LBS. WHILE LYING ON HIS BACK

Sports Cartooning

Telling the story of sports in pictures has appealed to cartoonists for many years, and has attracted some of the best draftsmen in the business, said Grantland Rice recently. "In the old days we think of Clare Briggs, Tad, Bob Edgren, and many others who made their fame in this field," he continued, "and the boys of today are carrying on in the same tradition, as will be seen from some of the following pages of this book, which comprise one of its strongest features."

Ability to draw the human figure in every conceivable position is the most important part of a sports cartoonist's training, because whether he draws normal action or exaggerated action, his knowledge of anatomy is a prerequisite. In the drawings of Howard Brodie the action is moving, dynamic, and convincing. The balance and rhythm of the body in each action should be carefully studied. He avoids any mechanical means of drawing, and says that when he is asked to use a photograph for factual reference he goes to considerable pains to avoid copying it.

Willard Mullin burlesques action in sports by exaggerating it. His sweep of line lends grace to every sketch, which gives the figure the appearance of a ballet dancer clowning through the game. Tom Paprocki combines the two methods in the single panel, using the normal action for the central figure and the exaggerated action in small sketches.

HOWARD BRODIE COVERS A FOOTBALL GAME

Courtesy of The San Francisco Chronicle.

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Boxers in Training by Howard Brodie
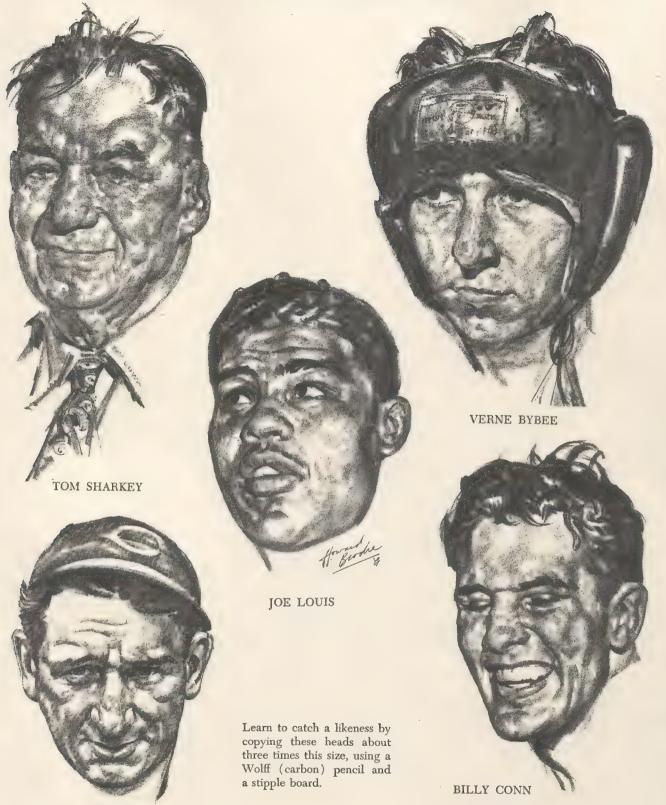
SKETCHES FROM the ringside and in the gymnasium show the technique obtained with a dry brush. One can almost count the hairs. Mr. Brodie is meticulous in his selection of materials, and he knows what to expect when he picks up a certain brush, crayon, or pencil.

Courtesy of The San Francisco Chronicle.

Crayon Portraits by Howard Brodie
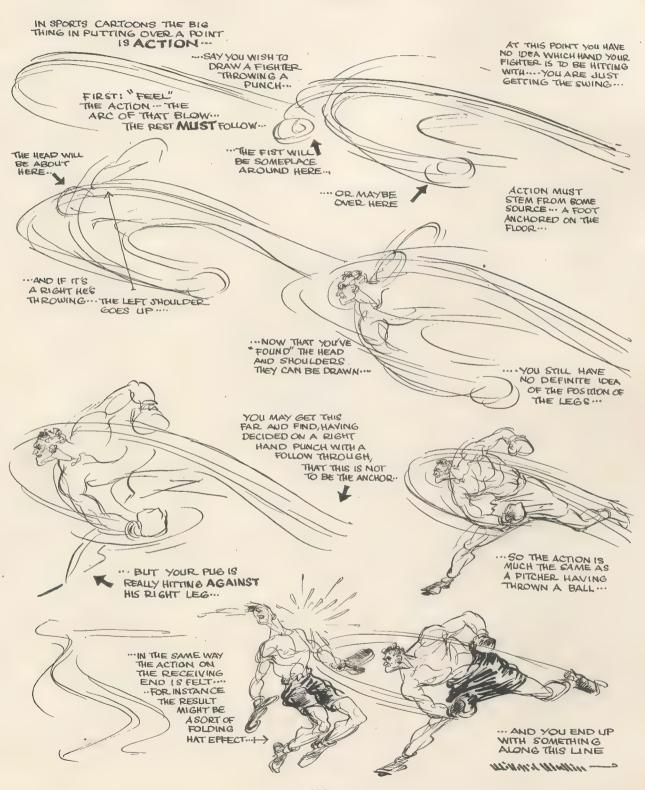
TOM SHARKEY

VERNE BYBEE

JOE LOUIS

Learn to catch a likeness by copying these heads about three times this size, using a Wolff (carbon) pencil and a stipple board.

ERNIE LOMBARDI

BILLY CONN

Courtesy of The San Francisco Chronicle.

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Exaggerated Action by Willard Mullin

MR. MULLIN TELLS YOU HOW IN HIS OWN WAY

IN SPORTS CARTOONS THE BIG
THING IN PUTTING OVER A POINT
IS **ACTION**...

...SAY YOU WISH TO
DRAW A FIGHTER
THROWING A
PUNCH...

AT THIS POINT YOU HAVE
NO IDEA WHICH HAND YOUR
FIGHTER IS TO BE HITTING
WITH....YOU ARE JUST
GETTING THE SWING...

FIRST: "FEEL"
THE ACTION... THE
ARC OF THAT BLOW...
THE REST **MUST** FOLLOW...

THE HEAD WILL
BE ABOUT
HERE...

...THE FIST WILL
BE SOMEPLACE
AROUND HERE...

....OR MAYBE
OVER HERE

ACTION MUST
STEM FROM SOME
SOURCE... A FOOT
ANCHORED ON THE
FLOOR...

...AND IF IT'S
A RIGHT HE'S
THROWING... THE LEFT SHOULDER
GOES UP....

...NOW THAT YOU'VE
"FOUND" THE HEAD
AND SHOULDERS
THEY CAN BE DRAWN...

....YOU STILL HAVE
NO DEFINITE IDEA
OF THE POSITION OF
THE LEGS...

YOU MAY GET THIS
FAR AND FIND, HAVING
DECIDED ON A RIGHT
HAND PUNCH WITH A
FOLLOW THROUGH,
THAT THIS IS NOT
TO BE THE ANCHOR...

... BUT YOUR PUG IS
REALLY HITTING **AGAINST**
HIS RIGHT LEG...

...SO THE ACTION IS
MUCH THE SAME AS
A PITCHER HAVING
THROWN A BALL...

...IN THE SAME WAY
THE ACTION ON
THE RECEIVING
END IS FELT....
..FOR INSTANCE
THE RESULT
MIGHT BE
A SORT OF
FOLDING
HAT EFFECT...→

... AND YOU END UP
WITH SOMETHING
ALONG THIS LINE

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"Nijinski at the Bat" by Willard Mullin

IT IS EVIDENT that Mr. Mullin had a lot of fun doing this. The small blacks in the caps and stockings are useful accents which help the outline figures to stand out.

AND NOW THE REDS ARE IMPORTING SOMEONE TO TEACH THE CINCINNATIS THAT DYNAMIC STANCE AND BODY RHYTHM STUFF···
···WELL IT DIDN'T HELP LOU NOVA VERY MUCH····

FOUL BALL!

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The Work of Tom Paprocki

MR. PAPROCKI roughs in his drawing in blue pen-
cil for the first stage, then develops it in lead pen-
cil, adding the shading in the third stage, and ink
with a dry brush for the final. The drawing is
made on a pebbled board.

Courtesy of AP Features Service

Editorial Cartooning

IN AN ARTICLE on "Contemporary American Caricature" which appeared in the December, 1899, issue of *Scribner's Magazine,* John Ames Mitchell credited the somewhat sudden development of cartooning for political purposes on this side of the Atlantic to the force of Thomas Nast. He was referring to the series of cartoons by this artist which appeared in *Harper's Weekly* as early as 1871 and which, almost singlehandedly, brought about the exposure and disruption of the vicious gang of plunderers, headed by Boss Tweed, that pillaged the treasury of the city of New York at about that time.

It is to this singular accomplishment that cartoonists in the editorial field point with justifiable professional pride. Nast accomplished more than pages of printed matter could ever hope to do. He made the faces of the Tweed Ring public property and spread the disgraceful deeds of the group in forceful pictures with but the fewest and most potent words.

"The influence of a good caricature," continued Mr. Mitchell, "whether for good or evil, is only fully appreciated by those who have been its victims. They alone are familiar with its corroding bitterness. To the politician, for example, who is delicately balancing between right and wrong, a scorching editorial, boldly placing him upon the evil side, is easier to live down, no matter how ably written, than the clever caricature which gives ocular demonstration of his sin. The editorial appeals to the intellect; the caricature appeals to the intellect, to the eye, and, worst of all, to the sense of humor of the beholder. . . . Thousands who would not read the letter-press if placed in their hands revel in the details of the caricature with delighted eyes; and their dominant impression of the victim is the one they thus receive."

Contemporaries of Thomas Nast included Joseph Keppler, who founded the magazine *Puck* during the 1870's, which devoted its pages to the amusement of its readers. The names of many famous artists of the period became associated with this magazine, among whom were F. Opper, W. L. Sheppard, and E. W. Kemble. With the advent of *Life* in 1883, the work of W. A. Rogers appeared, a man who produced compositions of strength and refinement. It was through the field of caricature that American illustration developed, and the traditions of good draftsmanship which stamped the work of that day prevail in this.

"In our own time," writes C. D. Batchelor, editorial cartoonist of the New York *Daily News,* "any list of contemporary men must include Kirby, Darling (Ding), Duffy, Enright, Lewis, Herblock, Cesare, Robinson, Fitzpatrick, Orr, Gropper, Minor, Shoemaker, and John T. McCutcheon. The impress of this group of men on the thought and opinion of their time cannot be torn from the record of freedom in America and the credit due a free press.

"The power of the political cartoon springs from its timeliness, aptness, honesty, intelligence, and simplicity. It further derives from the interest of the reader one of its chief forces. In its ability to state a complex matter in brief and succinct terms, it gives the reader an impression that often survives the printed work. I say 'often' advisedly, for though the Chinese have an epigram which states, 'One picture is worth ten thousand words,' it would be well for the judicious to examine in any case the picture and the words. I have yet to know the cartoonist who would like to see his cartoon in a panel opposite the 266 words contained in another panel which were delivered by a certain lanky and awkward figure at the dedication of the cemetery at Gettysburg, Pa.

"Cartoons today are usually drawn in crayon on rough paper, or by the use of pen and ink on smooth paper. The cartoon endeavors, in the confines of a single or multiple picture, to present the view of the publication in which it appears. With remarkable consistency this happens to be the cartoonist's view as well. If the cartoonist succeeds in telling his story without undue verbosity, the cartoon is all the stronger as a mental and effective impression."

J. N. Darling, better known by his signature "Ding," was asked to write about his method for developing ideas. A master of exaggerated action in his drawings, as well as a humorous interpreter

"Ding" — J. N. Darling — gives advice on how to get
editorial ideas.

of serious political and controversial subjects, Mr.
Darling has won the Pulitzer Prize several times.
Not only are his cartoons well worth careful study
by the student, but the following description of
how he develops his ideas will be found amusing
and instructive.

"If I knew any easy way to get cartoon ideas,
I'd tell you and then read it myself," he begins.

"Most people think a cartoonist just sits around
in his bedroom slippers and lounging robe, wait-
ing for an inspiration. Suddenly there is a great
light, the heavens open, and an angel descends,
touches him with the tip of her wing, and out pops
a brilliant idea, born full-armed like Minerva.
Then, all the cartoonist has to do is to make a few
simple passes with his crayon and sell his picture
for a hatful of money.

"I'm sorry, but that isn't the way it is. At least,
it has never happened to me. If there are other
cartoonists who get their ideas that way, then
my testimony is only for those who, like myself,
have to put themselves in the kettle, turn on the
heat, and boil until enough soup stock has stewed
out for a serving. Sometimes it's pretty thin broth.
Clever draftsmen can make a very good cartoon
entertaining and funny to look at with only a trace

of an idea. Others like myself, whose fingers are
all thumbs when it comes to drawing, have to
make up for poor drawing by having an idea that
will stand alone in spite of mutilation by clumsy
draftsmanship. Probably that is why I was asked
to tell (if possible) how to get and develop the
idea for an editorial cartoon as distinguished from
the human-interest cartoon and comics. Speaking
for myself, this is the process:

"The primary specifications for a cartoon idea
are:

"First—It must be something that everybody
will be interested in but which no one else
has ever thought of before.

"Second—It must be funny or sad or sting the
living daylights out of something or some-
body—and look out whom you pick for your
target. It is surprising how many people there
are who have pet corns which must not be
stepped on, and editors are notoriously sensi-
tive about canceled subscriptions.

"Third—If it is to be an editorial cartoon, which
is the only kind I know anything about (if
any), it should carry a penetrating message
based on universally accepted social, eco-
nomic, or political philosophy, calculated to
educate and uplift the masses. I don't re-
member ever having embodied all of these re-
quirements in a cartoon, but that is what the
editorial cartoonist is supposed to shoot at.

"Keeping these primary specifications in mind,
you next look for your subject matter. What the
rest of the world is thinking most about that day
is your best bet. It might be the President's mes-
sage to Congress, an earthquake in Japan, the
brevity of women's skirts, or the scientist who
crossed the honeybee with the firefly so it could
work twenty-four hours a day. You can make an
acceptable cartoon on any subject on God's green
earth if public interest is thoroughly aroused. And
if the public doesn't happen to be interested in
anything, which it frequently isn't, then there is
always the weather and taxes. A pretty heavy diet
of newspaper and magazine reading will generally
be found a safe guide to the subject or subjects
uppermost in the public mind.

"Everything has been quite easy and simple so
far. Anyone can do that much.

"Having selected the subject matter, you must make sure that your facts are accurate and that you have a full understanding of their significance. If you don't already know all about your subject, look it up. That done, you will come to the critical stage, which will determine whether your cartoon idea is going to be a success or a failure, and here is where the fun comes in if you are successful, and the depths of morbid depression if you fail. This is where the cartoonist runs himself through the wringer in an effort to find a pictorial situation which will translate his subject matter into terms of common human experience. The more clownish the translation, the better.

"Here you must depend on your own resources and you drag out from the pigeonholes of your memory all the well-known historical parallels, familiar quotations, Mother Goose and nursery rhymes, Shakespeare, Biblical parables, song hits of the day, Greek mythology, Hans Christian Andersen's *Fairy Tales*, and the endless variety of familiar incidents of human or animal behavior, looking for an exact parallel which, when applied to your subject matter, will humanize the dull facts of the situation you are trying to illustrate. In other words, you take a complex subject of general importance and reduce it by the least common denominator to quick and easy understanding, seasoned with a chuckle if possible.

"Verbally we would call this process 'speaking in parables.' Pictorially, 'allegory' is probably the best word for it. Noah Webster says allegory means 'figuratively speaking, the veiled presentation of a meaning, metaphorically implied but not expressly stated.' The late Will Rogers did it beautifully in words. The editorial cartoonist tries to do it in pictures. He purports to be a visual interpreter of passing events and is to the news of the day what the news commentator is to the radio news broadcast—only funnier, I hope. The richer your metaphor, the better will be your cartoon idea. In most cases it takes a lot of distilling to refine your idea, and if you have to make a cartoon every day you will do well to have several barrels of sour mash fermenting on the side to be ready to use if the particular batch you had planned to use for the day doesn't cook. You will need a lot of yeast, and I don't know any drug-

Mr. Darling dips into his think tank for an idea.

store where it can be bought. You have to make your own. Then all you have to do is draw it.

"Let me give you some examples. I will never forget the occasion that John L. Lewis and Franklin D. Roosevelt had their violent falling out, ending a most beautiful friendship. Lewis had blasted the President with the most scorching invectives he could think of, and Lewis is good at that. It was the most important news of the day, and Talburt, of the *New York World-Telegram*, found his metaphor in the song hit of the day, 'Oh, Johnny, Oh, Johnny, How You Can Love.' The picture was a gorgeous ironical burlesque of John Lewis, all haired up with rage, walking out on his old friend and leaving the startled Roosevelt sitting amidst wrecked office furniture, with his own portrait (which he had lovingly inscribed to Lewis) busted over his head, and the picture frame dangling about his ears. It was a perfect illustration of the situation, and I venture the late President got a good laugh out of it himself. I don't know how long Talburt searched in the crannies of his head for the formula that just fitted the situation, but very few cartoon ideas like that just happen. Most of the time you have to dig and sift a long while to find them.

"Possibly the best way to convey a clear under-

The Sudden Increase in Diplomatic Population
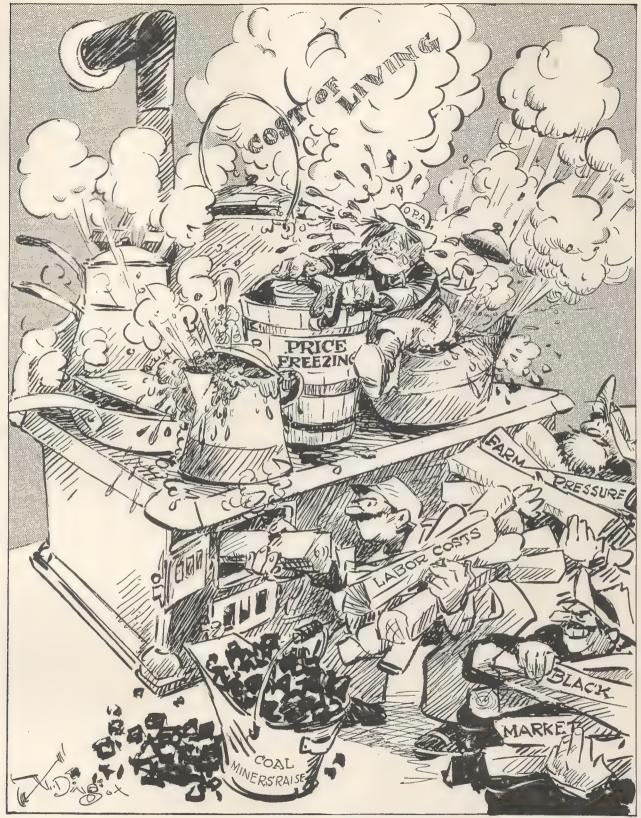
Mr. Darling puts across his idea by the picturization of a situation and rarely resorts to the "balloon" for further explanation. For this drawing he used pen and brush with ink.

Reproduced through the courtesy of
New York Herald Tribune Syndicate

standing of the process by which a cartoon idea is arrived at is to trace one through the mill. Recently Russia announced that each of its component states would be given independence in its international and diplomatic relationships with foreign powers. That meant sixteen ambassadors from the Union of Soviet Socialist Republics instead of one. Nothing has happened since the League of Nations debate over relative voting strength among the major powers which threatened so completely to upset the balance in the diplomatic applecart. Just a picture of an upset applecart, with the attendant discomforts and confusion when Stalin and Molotov with the sixteen new members of their big family tried to climb aboard, was the first thought. McCutcheon could have done it perfectly, but it required too skillful draftsmanship for me to attempt, and, besides, when completed it would have presented only per-

haps a humorous picturization of an event but carried none of the suggestions of deeper significance. There was a bit of irony present in the situation of Great Britain with her big family of colonies, and the United States with her forty-eight states, being jealous of Russia with her family of sixteen component subdivisions. After much travail I settled on an idea of Johnny Bull and Uncle Sam as representatives of the Margaret Sanger cult, urging birth control on Russia and her newborn litter of little bears.

"Occasionally most editorial cartoonists have a hankering to be missionaries to a good cause. It is a dangerous impulse and subject to serious consequences if your expressed convictions don't happen to meet with general approval. This one didn't. The subject uppermost in the public mind at the time promised to be the next day's government release of the statistics on the cost of living and freezing price levels. Here was a situation of the public clamoring for cheaper prices and at the same time, with total disregard for consistency, doing everything that would make the freezing of price levels an impossibility. Everyone was demanding more money for the products of their labor and then bitterly criticizing the Office of Price Administration because the cost of living was rising. Here was a situation where practically the whole population was trying to go both up and down at the same time in the same elevator, obviously impossible of execution pictorially, but somewhere hidden in the situation I was sure there was a way to show the inconsistency. The germs of two cartoon ideas finally emerged from the same brew, after much stewing. The first one was a man personifying 'rising cost of production' running up a tall ladder and telling his own shadow, 'rising prices,' to stay down where it belonged. There was a tickle in the idea, but I lost it in the drawing and it turned out just a diagram of a truism and was a flop as a cartoon.

"The second attempt was more successful, and although the cartoons appeared one right after the other no one suspected they were twins because of the wide difference in the two metaphors to express the same thought. The second cartoon idea started with the thought of freezing prices under difficulties. Freezing prices suggested what

"Helping Willie Freeze the Ice Cream," referred to by Mr. Darling in his account of how he developed the idea, shows other subtle touches of humor he did not mention. A Ben Day mechanical "dot" pattern is used in the background to bring out the effect of steam that would have been lost without this tone.

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This wash drawing by Oscar Cesare gives evidence of his fine draftsmanship, his masterful command of composition, and his ability to conceive ideas of striking power. Titled "Master and Men," the original drawing was made 15″ x 19½″ with black water color into which some yellow ocher was mixed. This mixture has good reproductive quality. The cartoon was made for and is reprinted through the courtesy of *The N. Y. Times Magazine.*

most every boy of my generation had experienced, that is, grinding away on an ice-cream freezer that wouldn't freeze. But how was I to express the other end of the theme: that the public was preventing the freezing? They could be shown building a fire under the ice-cream freezer, but that seemed a clumsy device. No one would willfully build a fire under his own ice-cream freezer. They had to be building a fire for a reasonable purpose, and only inadvertently putting the heat on the freezer. Well, where would most people build a fire? Probably in a cookstove, to cook something they wanted cooked. And what everyone wanted cooked was more income and profits for themselves. But there the idea broke down, for it failed to take into account the boy turning the ice-cream freezer . . . unless I set the boy with his freezer on top of the stove, along with the boiling pots and kettles of increasing cost of production and rising prices. Oh, but putting a boy on top of a stove to freeze ice cream was absurd! Well, so were the rising costs of production and stabilized selling prices absurd. Yes, maybe it would work and be more effective because of the obvious inconsistency. It did.

"Cartoons in their finished form, when they appear in the papers, may look like spontaneous combustion. Those precision ballets of the Rock-

ettes when they appear on the stage have all the aspects of a good-looking lot of girls who, with unpremeditated abandon, suddenly decide to express their joy of living by kicking up their heels in exactly the same way at exactly the same moment. Both ballets and cartoons have a lot more dull routine back of them than meets the eye."

Sometimes a cartoon, which the artist is inclined to regard as below his standard, is received overwhelmingly by the public. Mr. Darling's drawing, "The Long, Long Trail," was one of those incidences. In a recent letter to the editor, he recalls the misgivings shared by both the newspaper and himself.

"That cartoon had a most precarious start," he writes, "and came darned near never being published. I had drawn it and thrown it on the floor as a discard and tried to make a better one. I couldn't get the second one done in time for the first edition and the local managing editor only ran 'The Long, Long Trail' under protest in the first edition, intending to pull it out and run the cartoon I had on my drawing board through the rest of the editions. Because I was in such a sweat to get the second cartoon done, I forgot to countermand the order to the stereotype department for the mats to go out on the Syndicate, and before I got the second cartoon done, the mats on 'The Long, Long Trail' were made and in the mail to 111 outside papers. The *Herald-Tribune*'s managing editor didn't like the cartoon either, and held it up with the expressed hope that I might produce a better one for the day of T. R.'s funeral. The rest of the story is pretty well known. The reproductions that I know of exceeded 20,000,000 copies. It was remade in bronze bas-relief for a number of high schools, and the Roosevelt Hotel, also for commercial calendars and copper etchings." Ideas based on public sentiment invariably evoke public response.

Copyright, New York Herald Tribune

"The Long, Long Trail," by "Ding"

This famous drawing, published upon the death of Theodore Roosevelt, in 1919, served as the basis for a bas-relief modeled by Laura Gardin Fraser.

The Work of C. D. Batchelor

C. D. BATCHELOR's dramatic artistry exerts a wide influence on the public. His "Vital Statistics," which appeared during World War II, is an excellent example of the far-reaching repercussions of editorial cartooning. After newspaper publication, "Vital Statistics" was selected by the Red Cross to be used as a poster for its blood donor campaign.
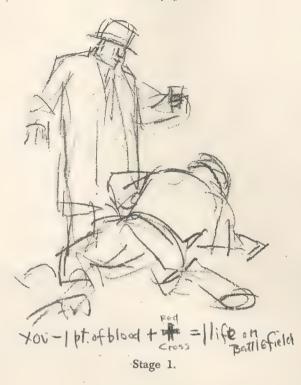
Stages 1 and 2, on this page, represent Mr. Batchelor's preliminary sketches when he was roughing out his idea for civilian contribution to the war effort. Stage 3 is the finished cartoon as published in black-and-white. Stage 4, on the following page, is a reproduction of the Red Cross poster, which was adapted from the original cartoon by adding color and new copy.

YOU - 1 pt. of blood + Red Cross = 1 life on Battlefield

Stage 1.

Vital Statistics

You - 1 pt of blood + = 1 life on the battlefield

Stage 2.

YOU - 1 pt. of blood + the RED CROSS = 1 life on the battlefield.

VITAL STATISTICS
by C. D. Batchelor
courtesy
THE R NEWS

Stage 3. The finished cartoon
Courtesy of The News, *New York's Picture Newspaper.*

Stage 4. The Red Cross poster

"BUT, WINSTON, THIS SORT OF THING CAN'T GO ON, YOU KNOW"!!!!

NARVIK
BATTLE OF FRANCE
DUNKIRK
GREECE
CRETE
HMS PRINCE OF WALES
HMS REPULSE
MALAYA
SINGAPORE
DOVER STRAIT

ALL THE INEXHAUSTIBLE RESOURCES IN THE U.S.A.
LEND-LEASE BILL
ATLANTIC CHARTER
ALL THE WEALTH
ALL THE CREDIT
ALL THE MAN POWER
ALL THE BILLIONS
ALL THE PRODUCTION
EVERYTHING GOES IN THE POT!

"IT'S NOT GOING ON MUCH LONGER"!!!

Copyright, 1942, The Chicago Tribune

Britain Should Not Be Too Critical of Mr. Churchill

John T. McCutcheon

JOHN T. McCUTCHEON, the dean of American cartoonists, dramatizes his ideas with humor and kindliness. Using a board with a pebbled surface, he outlines his figures in a fine pen line, then shades with a pencil, adding the solid blacks for emphasis with a brush. His likenesses are unmistakable and need no labeling. No extraneous detail is introduced, and this simplicity of expression has served as inspiration for many artists now prominent in the cartooning field.

The Work of H. M. Talburt and William Gropper

TURNING A patch pocket on Hitler's shirt into a balcony for Il Duce from which to proclaim the twentieth anniversary of his Fascistic empire is typical of the comic or ironic ideas by which Mr. Talburt puts across his graphic expressions. His drawing is made with a lithographic pencil on a pebbled board, each dot a positive black mark, which permits a line reproduction. This technique, varied with pen and ink and brush, is used by the majority of artists whose work appears in newspapers. "Roman Holiday" was made 9½ by 12½ inches.

ROMAN HOLIDAY!

20TH ANNIVERSARY OF FASCISM

Courtesy of Scripps-Howard Newspaper Alliance

"Spring must be here. I saw a vulture today."

ANOTHER CARTOONIST whose ideas sparkle with irony is William Gropper. His thoughts have championed the more liberal point of view. In the accompanying illustration, he suggests the growing uneasiness of the Nazi mind in the eternal bleakness of their Russian campaign. The caption further points to the utter desolation around them. Mr. Gropper also uses crayon on a rough-surfaced board, but varies his effect from the work of other cartoonists with the use of spatter. This is accomplished by wetting the bristles of a stiff brush, like a toothbrush, with ink and running a pencil through them. The method is described in the chapter "The Artist Selects His Medium."

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The Work of David Low

LAVAL GOVERNS FRANCE WITH A HEAVY HAND

David Low's work is well known in America, despite the fact that he is a British cartoonist, as a result of regular publication in *The New York Times* for many years. His simple and powerful expositions of political ideas are rendered in a heavy line-and-brush technique. He is painstaking in his draftsmanship, and it is said that upon an occasion when he had to draw a steam roller, he hunted all over the city of London until he found one, then sat on the curb and sketched it. When all the definition of a subject must be shown in the contour of a line separating solid-black masses from white, additional care must be taken with the drawing.

LOW'S NUREMBERG
SKETCHBOOK – NO. 1

Copyright, Low–all countries

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David Low

HAND-CLASPS

SOUTH AMERICA

"HONEST, MISTER, I HAVEN'T PULLED A STRING— SINCE YOU CAME"

SPANISH SERENADER

The Work of D. R. Fitzpatrick

"GATEWAY TO STALINGRAD," one of Mr. Fitzpatrick's impressive cartoons of the past war, was rendered in lithographic crayon on illustration board. He has combined the contrasts of an effective pictorial composition with a powerful analogy suggesting the mass waste of life.

The Work of Rollin Kirby

ROLLIN KIRBY, several times Pulitzer Prize winner for his cartoons in the old New York *World*, was one of the first to break away from the old pen-and-ink technique used by the pioneers in the business, and helped to establish the modern style of using pencil and crayon. One of Mr. Kir-by's notable character creations was the tall figure with high hat and umbrella which symbolized Prohibition. "It's Later Than You Think, Adolf," shown above, is one of a series of cartoons drawn exclusively for *Look* magazine, to which acknowledgment is made for this reproduction.

Magazine Comic Illustration

THE AWAKENING of public interest in the comic illustrations in magazines probably can be traced to the efforts of *The New Yorker,* the magazine of an urban sophistication whose original intention to be essentially New Yorkish has never been compromised. It imposed no restrictions on the writers of humor, who had been to an extent hampered by the absence of a free medium of expression, and it discovered many unknown artists who set a new mode for humorous illustrations. The new style, characterized by sketchy informality, an increased naturalness, and a compact, one-line caption, has influenced the entire field and has found many imitators. Today most of our national weeklies are printing comic illustrations because editors have come to realize that these drawings sell their magazines. In turn, the advertisers have discovered that this humorous presentation is the almost perfect salesman. The drawings are cheerful, breezy, unpretentious, and direct. Probably they serve as the quickest and most painless method of getting a selling argument across to the reader.

The rich possibilities that this field of art offers to the young aspirant with talent is evident to anyone who turns the pages of a modern magazine. The pages which follow contain examples of work by America's leading humorous artists. It will be useful to the student to study these various styles, not so much with a view to imitating one or more of them, as to learn something about the methods employed.

The first broad generalization which might be made upon perusing these pages is that while these men and women show the greatest variety in technique and treatment of their subjects, they can draw. They know anatomy, they are familiar with the rules of perspective and proportion, and they can compose a picture in such a way that the eye travels instantly to the point of humor in the drawing. Their pictures are not overloaded with extraneous details which, however funny in themselves, only detract from the central point of the illustration. The day is gone when artists adapted the comic signature, such as the portrait on the wall making goo-goo eyes at the persons in the picture, or the black cat down in the right-hand corner ad-libbing a few wisecracks on his own, and the hundred-odd other bits of funny business that used to clutter up the picture. Today, the humorous artists come to the point, and if the point isn't funny, the drawing fails in its purpose. It would not be helped any by a lot of gags sprinkled around the odd corners of the picture.

This simplification and economy of detail is sometimes deceptive. Many people do not realize the amount of skill that is required to execute a good funny picture, and they are apt to believe that distortion of the figure in some cases is a reflection on the draftsmanship of the artist, and that many of our best humorous artists who have perfected simplified styles cannot draw. What the layman may not realize is that these comic artists have learned through practice and experience just how much they must put down on paper to get their point across—then they leave the rest out.

Differing from comic illustrations in newspapers, comics in magazines are drawn frequently in black-and-white water color. Magazines are printed on a better grade of paper than is used for newsprint, and half-tone reproductions made with a finer screen are possible. This situation permits a wider latitude for the artist, and many drawings devoted to humorous purposes are executed with care even greater than is sometimes given to other kinds of illustrations made for more serious presentation. The effect of spontaneity is obtained by using the vignette form instead of enclosing the picture in a rectangular frame. A vignette is a picture whose border imperceptibly fades away.* It commonly has an irregular shape, as though the unimportant portions of the picture further removed from the center of interest had not been so definitely observed. This form of art, frequently appraised by casual observers as characteristic of the trial efforts of an artist, has been utilized for much seriously studied work and final presentations.

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* *Composition and Rendering,* A. Thornton Bishop, John Wiley and Sons.

Robert Day Demonstrates How He Works

MR. DAY, whose work is well known to readers of *The New Yorker*, plans his drawings carefully, making studies of various details which contribute so greatly to the success of the work. In preparation for the drawing he uses for this demonstration, Mr. Day collected sufficient data on natives of the South Pacific to permit him to caricature with the effect of authenticity. The sketches to the right were some of his preliminary studies. He then composes the entire picture in outline with a pencil, spotting in tone as he develops his effect. The thick bushy hair of the natives is indicated with black; it is evident that this portion of the picture will constitute the center of interest.

Studies are made for the various characters.

The drawing is developed in outline and certain areas are selected for treatment with tone.

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Robert Day Demonstrates How He Works

(continued)

Mr. Day inks over his pencil outlines, using a brush with which he varies the width of the line. Accents are added, such as the figured designs on the costumes of the natives. The natives' hair is painted solid black. Observe that an area of white space has been left virtually surrounding these black accents to make them as effective as possible.

Mr. Day uses three shades of gray transparent wash, the lightest of which he paints over certain portions of his drawing. This tone serves as an undertone; it divides the composition into white and toned areas. Mr. Day believes in building toward the effect he desires. Note how the water color brings out the tree trunks and leaves, the soldiers and the natives.

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Robert Day Demonstrates How He Works

THE FINISHED DRAWING

From The New Yorker
Copyright, 1943, by The F-R. Publishing Corporation

THE DARKER tones are added in such a direct way that the true significance of each value is readily distinguishable. One tone is painted over the lighter beneath it so that a two- or three-tone effect is obtained. The foliage is darkened, and the tones which are washed over the detail that defines the field kitchen help soften the effect of great activity in this area, an interest that might misdirect the attention of the observer if treated with contrasts.

This demonstration in the use of flat, transparent water-color washes should prove invaluable to the student who strives to attain perfection in this medium.

Richard Decker Gives a Demonstration

MR. DECKER's drawings are busy with many interests, all of which help to establish a certain setting with convincing authenticity. However, he never permits the secondary interests to dominate the idea or theme for which the drawing is made. In the pencil sketch to the right, the central figure is placed so that he will command immediate attention, and other detail is grouped in such a way that it aids rather than detracts from the central theme. In the three progressive steps shown, it will be observed that this central figure is developed first so that other interests can be held to their respective values of tone.

The sketch is made with pencil, the main figure being darkened. Note how the airplane wing helps to direct attention to him.

Black-and-white wash is added.

"How much flying time has he had?"

From The New Yorker
Copyright, 1941, by The F-R. Publishing Corporation

Richard Decker — William Steig

STARTING WITH a rough "thumbnail" sketch, Mr. Decker envisions the composition, and enlarges it for the finished drawing. Emphasis is placed on the figure who is talking. Preliminary water-color washes knit together the various elements of the composition, after which these elements are strengthened by an inked line drawn with a brush. The final operation is softening the hard edges made by the water color. This is done by moistening a clean brush kept for this purpose and carefully blending the sharp edges. The accompanying drawing took Mr. Decker about eight and a half hours to complete.

"Like it?"

From The New Yorker
Copyright, 1943, by The F-R. Publishing Corporation

"Small Fry," the cartoons based on Mr. Steig's schoolmates in the early days of his education, won him his first success as a caricaturist. His style of working is somewhat like Mr. Decker's: a firm outline in black surrounds tones made with water-color wash. Careful study of arrangement is evident in the illustration to the right. Observe how the arm of the central figure is in line with the saluting arm of the young aviator, and that the line denoting the profile of the central figure is perpendicular to it. Convergence of lines forming right angles is a powerful force for compelling attention.

From The New Yorker
Copyright, 1943, by The F-R. Publishing Corporation

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The Work of Richard Taylor

"Er—pardon, Herr General . . ."

The Work of Jaro Fabry

Mr. Fabry sketches broadly with charcoal, then washes in tones with water-color black.

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John Groth Gives a Demonstration

MR. GROTH, instructor in cartooning at the Art Students League in New York, and art editor of *Parade* magazine, shows the four steps by which he produces his drawings. The idea is visualized in No. 1, including the mass effect of light and shade. Then he draws in outline with a pencil all of the forms which comprise the drawing. In the third step, he inks the lines made in No. 2, and finally he tones the area he wishes to make darker.

1.

2.

3.

4.
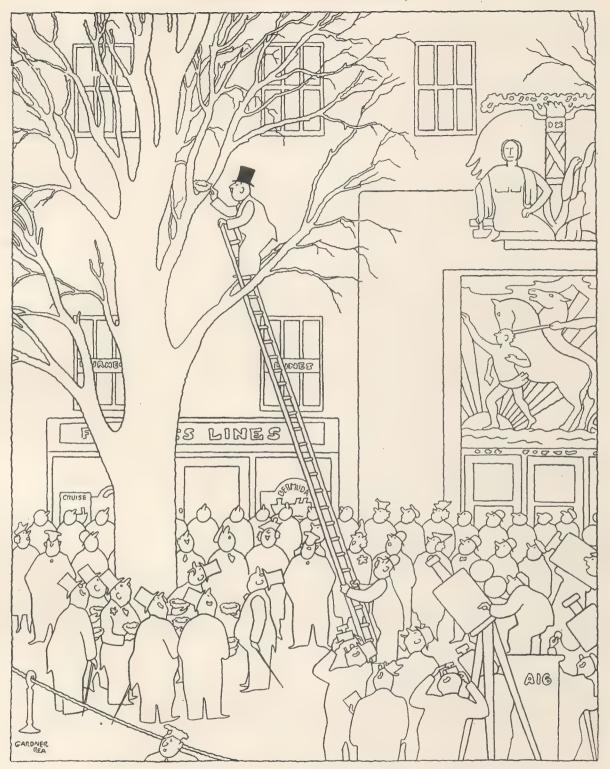
Courtesy of Parade

"Herr Captain, may we slip ashore tonight and visit Radio City?"

The Work of Gardner Rea
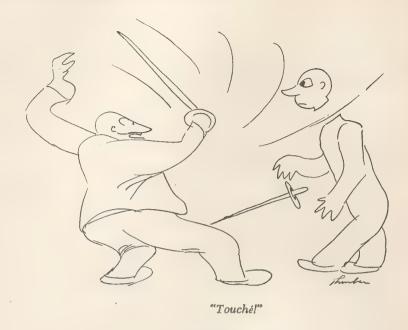
"Not to be outdone by Rockefeller Center, the Fifth Avenue Association donates eight birds' nests."

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James Thurber — O. Soglow — Carl Rose

JAMES THURBER and O. Soglow are two masters of the simple outline drawing. Their sense of humor is rare, their observations are introspective, and their comments are subtle. It seems appropriate that neither artist presents his ideas ostentatiously, but concentrates the observer's attention on the thought expressed. Both humorists use the single spot of solid black to accent the point of their story. Students should practice this kind of drawing because it helps to simplify the presentation of an idea.
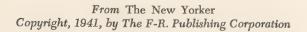
Mr. Rose, who works proficiently in many mediums, accomplished his drawing below with a brush, adding a few touches with a fine pen.

"Touché!"

From The New Yorker
Copyright, 1932, by The F-R. Publishing Corporation

"Tell me, Togo, where did you put the Napoleon brandy?"

From The New Yorker
Copyright, 1941, by The F-R. Publishing Corporation

From The New Yorker
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Reamer Keller Gives a Demonstration

"In developing ideas for magazine comics, I try to keep them homey," says Mr. Keller. "This one happens to be a woman in a grocery store with a little kid. What do groceries suggest today? Well, hoarding, for one thing. A flash comes, the kid is rubbed out and the woman is turned around. The caption suggests itself, and a finished rough, shown as No. 2, is presented to the magazine.

When the approval is granted, a rough sketch (No. 3) is made, and I let it stand overnight to see it with a fresh viewpoint in the morning. Changes that occur to me then are made and the drawing is inked in. Black-and-white water-color wash is added to give the tones required."

This illustration is reprinted by permission of *Collier's*.

1.

2.

3.

4.

"I'm mad at you, Mr. Schmidt — you still have plenty of everything I hoarded last summer!"

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Garrett Price — Bo Brown

GARRETT PRICE puts across his story with a minimum of lines, uses no tone, and confines his spots to details that have no apparent bearing on the idea. The technique is looseness itself, yet the portions of the drawing which seem to be lacking would add nothing if put in. All that is needed is there. Mr. Price states that he first considers the nature of the idea to be expressed, then chooses the medium best fitted to put it across. If tone is important, he uses crayon or wash, or a combination of the two. If small details have to be brought out, a pen is the answer.

"It's a beautiful day. Print me a ticket to the ball game."

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Bo BROWN uses the simple device of attracting attention by means of the solid black, using the mechanical Ben Day dot for a middle tone.

Drawing the Human Figure

BECAUSE IT HOLDS the greatest interest for people, the human figure is the object depicted most frequently in drawings, illustrations, and paintings. Its forms are varied and create patterns having beauty. Nearly every position the human body can assume, in action and repose, presents an arrangement with pictorial interest. A knowledge of these positions is a necessary part of the artist's equipment, and in this treatment of the subject attention is directed to the demands made by purchasers of artwork for use in the publishing field.

Drawing the human figure is approached from two points of view—a study of anatomy, and a recording of the contours of the figure in action which stresses the continuous flow of line denoting the grace of movement. In the first approach, the student searches for the vital facts about the construction of the figure; in the second, he is concerned with the pictorial representation, or the means by which he may suggest the action and purpose of the figure in his drawing. Both approaches are important and should be explored simultaneously. Concentration of attention on one point of view at the expense of the other can result in failure. For instance, a student who thinks only of the anatomical construction of the body without comprehending the interesting pictorial possibilities of the figure in action will produce drawings lacking naturalness and spontaneity. Students who neglect a study of human anatomy may produce interesting drawings marred by distortion and poor draftsmanship.

Construction of the figure for pictorial purposes is based on representation in three dimensions—length, width, and thickness. This requires expression in tone to define form, which necessitates study being given to the shape of the various areas of tone which represent shadow or suggest the gradations of shade caused by surfaces of the body receding gradually from light. To accomplish this, the student needs to analyze the anatomical construction of the body responsible for the patterns of light and dark. To this end let us begin with a study of the skeleton—the structural framework of the figure.
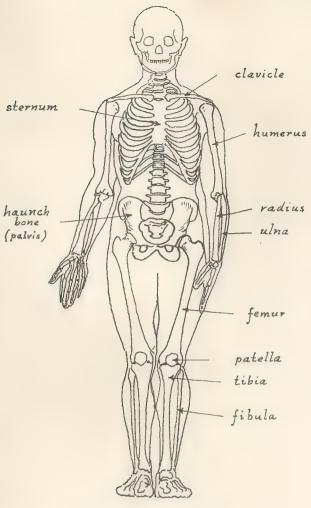
The Vertebral Column

Starting with the erect posture as the essential characteristic by which man is different from other species in the animal kingdom, we observe his bony skeleton and muscular system in this upright position. The backbone, or spinal column, is made up of a series of bones called vertebrae, placed one above the other. This column is the central axis around which is grouped a system of bones which protect the organs of the body and support the figure. At the upper end of this central column sets the skull, and directly below the skull is connected a framework of ribs meeting in the front along a flat plate called the sternum. At the upper part of this framework is the shoulder girdle, from which the arms are suspended, and at the lower portion is a similar arrangement, though heavier in construction, called the pelvic girdle, to which the legs are attached. In the drawing shown on the following page these important members are indicated and their names are given.

The vertebral column is made flexible by the separate bones which compose it, and its ability to remain erect is dependent on a powerful group of muscles which lie behind the backbone and to either side.

To this central column the pelvic girdle is connected firmly by means of an immovable joint. This joint consists of a union of five vertebrae into a wedge-shaped bone called the sacrum. Attached to the sacrum on either side are the heavy bones of the pelvis called the haunch bones, and the rigidity of this construction permits the weight of the upper portion of the body to be carried by the lower limbs.

sternum

clavicle

humerus

haunch
bone
(pelvis)

radius

ulna

femur

patella

tibia

fibula

FRONT VIEW — MALE
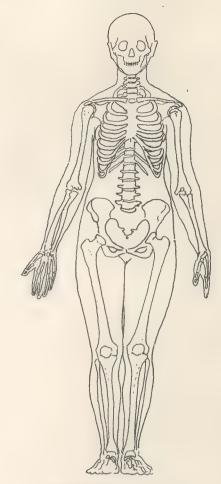
FRONT VIEW — FEMALE

The Thigh and Leg Bones

Separated at the haunch bones by the width of the pelvis, the thighbones, called the femur, taper obliquely inward to a position where they are side by side at the knees. There are two bones in the leg; the larger, known as the shinbone, or tibia, and the smaller, the fibula, are united to each other. The smaller is located slightly behind the larger and on the outer side of the leg. At the point of the knee where the thighbone meets the shinbone is a small flat bone called a kneepan, or patella.

Muscles that cover the thighbone are large and powerful and extend from the haunch bone to the knee, where they become narrow and join the muscles of the leg. Controlling the movements of the hip joints through which the weight of the

body is transmitted to the lower limbs, they acquire considerable development, which accounts for the fatty portions of the thigh and the prominence of the buttocks.

The Shoulder Girdle and Arm

The shoulder girdle, or bones by which the upper limbs are connected to the central formation of breast and ribs, consists of two bones on each side—the collarbone, or clavicle, and the shoulder blade, or scapula. These bones are joined at the point where they receive the head of the armbone, which is called the humerus. Their attachment to the framework of the trunk is at the upper end of the breastbone, or sternum. The shoulder blade is not connected directly with the trunk, but functions in connection with the collar-

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bone. Flexibility in this joint is limited, and the range of movement is controlled by the muscles by which it is attached to the framework of the trunk, both in front and in back. A small, shallow socket on the shoulder blade is where the rounded head of the humerus is pivoted. Differing from the deeply set head of the thighbone in the socket of the haunch bone, the joint at the junction of the arm and the shoulder blade is very flexible, permitting free movement. This accounts for the frequency with which it is dislocated, whereas the hip joint, which affords a more limited range of movement, is more firmly constructed.

As in the leg, the lower portion of the arm consists of two bones, but they do not vary in size as do those in the lower limbs. They are joined to permit free movement in certain directions. Both meet the lower end of the humerus, and as the arm is turned so that the hand is palm outward, they lie side by side and meet at the wrist. In this position the bone on the outside is known as the radius; the one on the inside, the ulna.

The Skull

The skull consists of two portions: that which encloses the brain chamber and that which protects the lower parts of the face. Poised on the upper end of the spinal column, the skull is so balanced that it is possible to keep the head erect with comparatively little muscular effort. All of the bones forming the skull are immovably united together, with the exception of the lower jaw, which is hinged from a socket in front of the ear on either side. Among the important bones of the face are the cheekbones, which define the width of the upper part and frequently suggest the racial character of the individual.

Further study of the skull, together with that of the bones of the hands and feet, may be deferred until the student's attention is directed to drawing those parts of the body. The bony structure of the fingers and toes, which should underlie every good drawing of hands and feet, is observed with little difficulty in a study from life. The purpose of this anatomical study is chiefly directed to an understanding of the major elements of the human figure, how the skeleton is constructed, and the relative proportion of the parts, so that the student may build his drawing with a knowledge of the framework underlying the flesh. Books on anatomy are frequently prepared from the medical point of view, and art students, in a quest of general information, can become easily confused in matters that do not lead advantageously toward their objective. *Anatomy for Art Students,* by Arthur Thomson, published at the Clarendon Press, Oxford, is an exception. Written originally in 1896, it was in its fourth edition in 1915, when it was used to advantage by the writer.

A — Frontal bone
B — Parietal bone
C — Temporal bone
D — Upper jawbone
E — Lower jawbone
F — Cheek or malar bone
G — Nasal bone
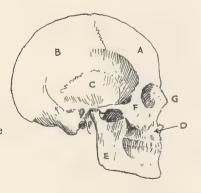
The form and size of the head vary with individuals, and because of this it is possible to recognize our own hats by their shape regardless of the similarity of color and material.

THE MALE SKULL
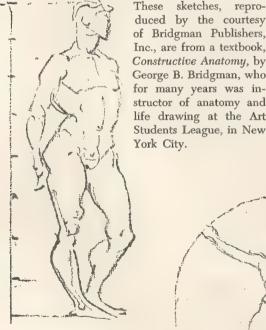
Proportion of the Human Figure

STUDY OF THE human figure will reveal that there is a consistency in the relative measurements of various parts of the body, regardless of the difference in heights and general characteristics of people. In determining a standard for proportion, the measurements made of any particular person cannot be accepted, as they embody individual characteristics; therefore, an average of measurements is sought for the student's guidance.

It has been a general practice to regard the head as a unit of measure, and with this as a guide we find that the average height of a male is eight heads; of a female, seven and a half heads. The breadth of a man's shoulders, which is usually his greatest measurement of width, is slightly less than twice the longest dimension of the head, and from this width he tapers gradually to the feet. The width of a woman's shoulders is a little less than the man's, and this dimension is generally equaled by the width of the hips.
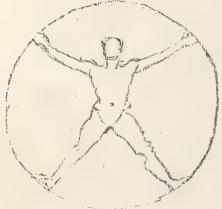
Believing that the Greeks sought to embody in their sculpture definite principles governing perfect proportion in the human form, scholars have measured assiduously the various statues extant and have found considerable data for their pains. Samson, in his *Elements of Art-Criticism*, summarizes certain of these conceptions as follows: "The entire statue was eight heads or ten faces; the breadth of the shoulders was two heads; of the loins, one head and one nose; of the thighs, one head and two noses." The observations go on at length, and it is interesting to note that he sought a smaller unit of measure to supplement the height of the head.

Vitruvius, the Roman architect, stated in his *De Architectura* that "Nature has so fashioned a well-formed human figure that the face, from the top of the chin to the forehead or to the roots of the hair, is a tenth part of the height of the whole body." He then proceeds to observe many other measurements which tend to prove that there is a basic relationship between each part of the body and the whole. For instance, he continues, "The navel is naturally placed in the center of the human body, and if, when a man is lying with his face upward and his hands and feet extended, from his navel as a center, a circle be described, it will touch his fingers and toes. Measuring from
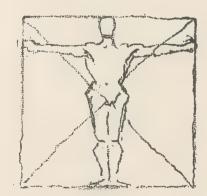
These sketches, reproduced by the courtesy of Bridgman Publishers, Inc., are from a textbook, *Constructive Anatomy*, by George B. Bridgman, who for many years was instructor of anatomy and life drawing at the Art Students League, in New York City.

MICHELANGELO
8 HEADS

The human figure in relation to the circle.
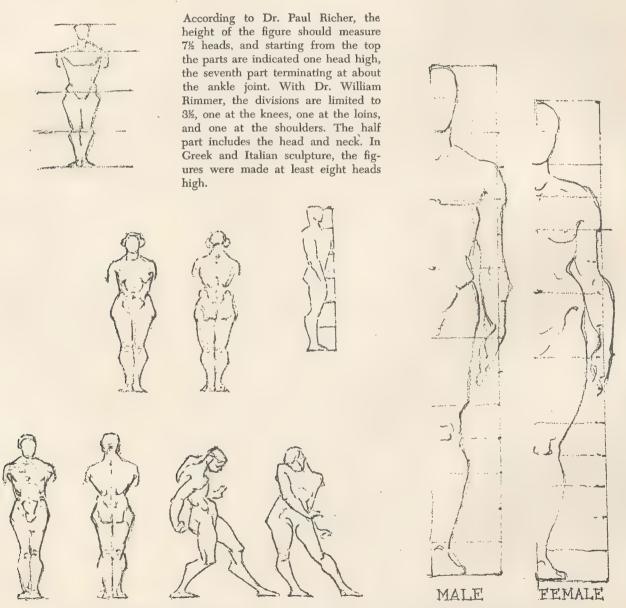
The figure in relation to the square.

the feet to the crown of the head and then across the arms fully extended, we find the latter measure equals the former, so the lines at right angles to each other enclosing the figure will form a square."

Other observations will disclose that the bone of the upper arm is about one and one-half heads in length; the bone on the inside of the forearm is about one head in length. The thighbone measures about two heads, and the leg bone nearly one and one-half heads.

While these generalizations may furnish some scale for the student's early efforts, it is impossible to find rules for guidance which, as used in particular cases, do not constantly need to be modified by the facts that can be learned from studying life models. A knowledge of proportion, however, may aid an artist, in the presence of models, to select for portrayal features that are beautiful, and where these are combined with others that are not, to correct the latter in accordance with his trained judgment. To do this, or even choose a model wisely, requires that an artist's judgment be founded on some acceptable theory.

According to Dr. Paul Richer, the height of the figure should measure 7½ heads, and starting from the top the parts are indicated one head high, the seventh part terminating at about the ankle joint. With Dr. William Rimmer, the divisions are limited to 3½, one at the knees, one at the loins, and one at the shoulders. The half part includes the head and neck. In Greek and Italian sculpture, the figures were made at least eight heads high.

MALE   FEMALE

These sketches by George B. Bridgman are reproduced by courtesy of Bridgman Publishers, Inc.

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Drawing the Figure in Action

MAN'S ABILITY to stand erect and avoid falling when in action depends upon his sense of balance. This balance results from a delicate distribution of his weight, and when the figure is not supported by some visible means, it must appear in balance to the observer. When the figure is shown in motion the artist must remember that the state of balance is transitory and that he must use his judgment to avoid making the figure appear unstable. A picture whose figures are out of balance can be very disturbing; it suggests an incomplete situation. Conflicts between figures produce good action in pictures, and balance is attained as one force is played against another.

The Greeks selected the moment between the recoil and the spring for their interpretation of action in their statuary. In the famous *Discus Thrower*, Figure 56, the figure is shown in a momentary state of repose between the action by which he has drawn back the object for the throw and the start of the reverse action that will send the missile toward its mark. A figure is in balance also at the completion of the "follow-through" after the action is over.
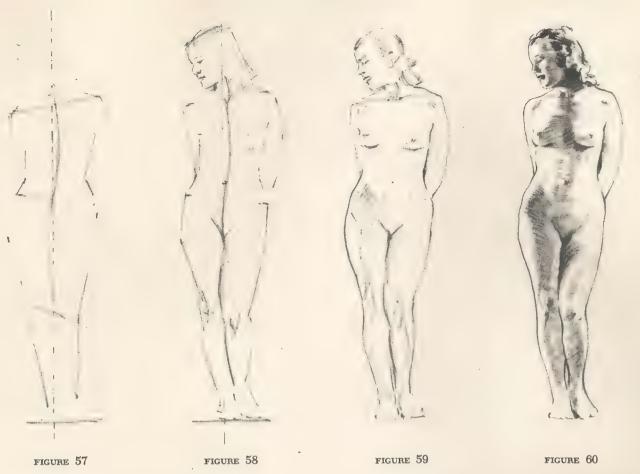
To establish balance in a figure, draw a light vertical line as a guide on which the figure is to be constructed. Observe that this line is dotted in Figure 57. This line will prove helpful even in drawings where the figure is shown in a crouched position.

In defining the action of a figure the student should recall to mind all that he learned in the construction of the matchstick figure, treated in detail in the section of the book devoted to "Comic Drawing." A center line through the figure from the head to the feet, indicating the course of the spinal column and the general direction toward the point on which the weight of the body is to be pivoted, should then be determined. Across this line three others should be drawn: one to establish the level of the shoulder girdle, another for the pelvic girdle, and the third to denote the position of the knees. Since the pelvic girdle is inflexibly attached to the spinal column, and the shoulder girdle has but little more freedom, these two lines should be indicated perpendicular to the spinal column at the point they cross it. The line of the knees follows the general direction of the line of the pelvic girdle. Using these lines as a guide, construct the figure (Figure 57).

Figure 58 shows the construction further developed; in Figure 59, areas devoted to shadow are sketched in. The prominence of the right haunch bone, when the weight of the body is thrown on the right foot, causes a sharp change in the planes on the right thigh, which can be re-

FIGURE 56

The *Discus Thrower*, by Myron, Greek sculptor (*circa* 492-430 B.C.), features a long, simple curve starting with the discus and passing across the shoulders down to the right leg.

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FIGURE 57   FIGURE 58   FIGURE 59   FIGURE 60
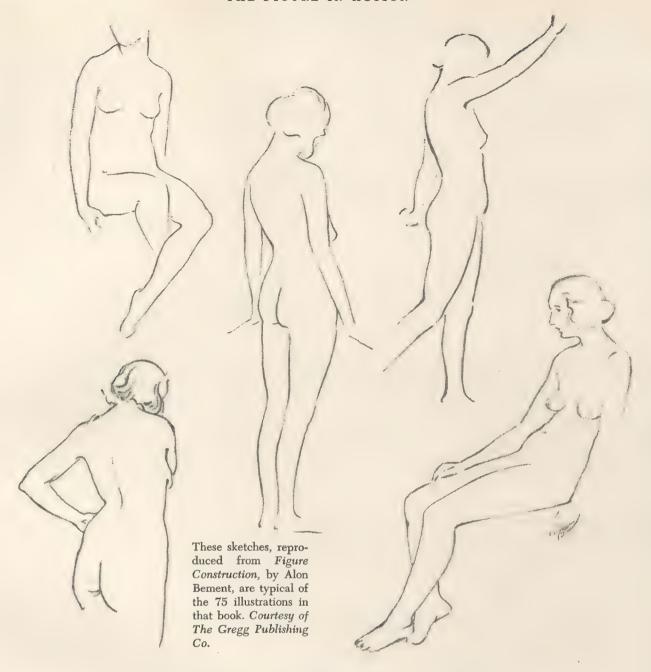
corded by an area of shadow covering the thigh and terminating at the high light defining the hipbone.

The outstanding characteristic of the human figure is its symmetry, and whatever the position the body may assume in action and from whatever angle it is viewed by an observer, this fact is ever obvious. In drawing the figure, the student should always establish the like parts in relation to each other at approximately the same time. For instance, the shoulders, hipbones, knees, and, in the case of the female figure, the breasts (Figure 60), should be located when the first few lines are drawn. One cannot draw one side of the figure, ignoring the other side until later, and hope to produce the effect of a co-ordinated unit.

A practical study of the human figure depends upon the student's opportunity to attend life classes in some near-by art school, or to draw from such reproductions of professional models as are obtainable from reliable art-supply stores. Of the many books worthy of recommendation, *The Human Figure,* by J. H. Vanderpoel, has been a student's handbook on the subject since it was originally published in 1907. *The Human Machine* and *Constructive Anatomy,* by George B. Bridgman, have also aided many professional artists of today to acquire a good working knowledge of anatomy.

To make a thorough drawing of the figure requires a sustained effort and a careful analysis of the many parts. Familiarity with the construction of each part, its appearance under changing conditions, and its effect in light and shade is essential knowledge for the artist. On the pages that follow, certain details have been included to aid the student in his study. The importance of each exercise will become apparent when at last the figure is to be constructed for rendering in full costume for story illustration, commercial advertisement, mural decorations, or in portraits where the full-length figure is used.

These sketches, reproduced from *Figure Construction*, by Alon Bement, are typical of the 75 illustrations in that book. *Courtesy of The Gregg Publishing Co.*

The Figure in Action by Alon Bement

MR. BEMENT, Director, Art Center, New York City, bases his approach to drawing the figure in action on the theory that the rapid execution of each line will aid the student to acquire skill and technique in much less time than by more painstaking methods.

An interesting characteristic of Mr. Bement's work is the way he contrasts a predominantly straight line with a curving contour. In the sketch (upper left) the straight right arm contrasts pleasingly with the curves on the left side of the figure. Below, the straight line down the side complements the angle effected by the left arm, and the curve of the left side of the body. This method of sketching freely may produce at first drawings lacking in anatomical construction, but the practice will help the student develop grace and naturalness in action.

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"Light and Shade," by George B. Bridgman

Shade adds the impression of solidity to your drawing and is a factor in composing the figure so that the areas of light and dark create a pleasing design. Lessons learned earlier concerning interesting spotting of lights and darks in the works of the masters will prove valuable to a student at this stage.

In his book *Life Drawing*, George B. Bridgman writes: "Keep before you the conception of a solid body of four sides composed of a few great masses. No two tones of equal size or intensity should appear directly above one another or side by side; their arrangement should be shifting and alternate. There should be a decided difference between the tones. The number of tones should be as few as possible. Avoid all elaborate or unnecessary tones and do not make four tones or values where only three are needed. It is important to keep in mind the big, simple masses and to keep your shading simple, for shading does not make a drawing."

William Galbraith Crawford

THE WORK of Mr. Crawford, or Galbraith, as he prefers to sign himself, is characterized by a looseness and freedom obtained by long sweeping lines that accomplish precisely the result he is after. These examples of his theatrical illustrations are made with a crayon.

His work is more widely known in the two-column daily panel cartoon, "Side Glances." For many years he attended the Paris fashion openings in the spring for *Vogue* magazine, an experience which is noticeable in his drawings of smartly dressed women.

This method of drawing the figure has been adopted by many fashion artists because of the long lines that create the impression of ease and grace — two qualities which are essential in the merchandising of women's fashions. The method is a practical development of Mr. Bement's theories (see page 169), and students should practice composing the figure freely, using a soft pencil or crayon.

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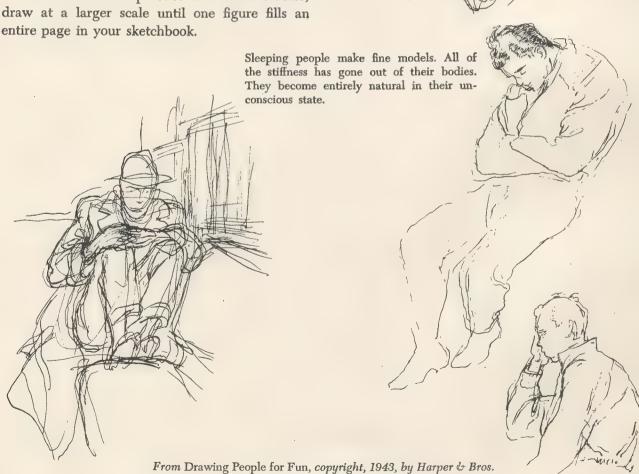
Drawing People in Public
by Roger Vernam

DRAWING PEOPLE in public is a fascinating pas-time for students, and it furnishes good practice in sketching the figure in action. Mr. Vernam sug-gests that one draw in outline, at first, and make the figures small. Sketch rapidly to avoid getting mixed up with unnecessary details. The faster you draw, the more of a drawing you can com-plete before the subject shifts his position. Estab-lish the proportions first, and the correct action of the pose, before defining any details.

"Forget about technique," says Mr. Vernam. "Don't nurse your sketches along. Technique is like Bo Peep's sheep: leave it alone, and it will come home. . . . Let the pencil or pen wander freely in search of the proper structure. Don't worry about the mistakes, or the resulting scramble of lines. It will help you to loosen up."

After considerable practice with small studies, draw at a larger scale until one figure fills an entire page in your sketchbook.

Sleeping people make fine models. All of the stiffness has gone out of their bodies. They become entirely natural in their un-conscious state.

From Drawing People for Fun, *copyright, 1943, by Harper & Bros.*

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Roger Vernam

From Drawing People for Fun, *copyright, 1943, by Harper & Bros.*

Norman Rockwell

A Night on a Troop Train with the Paratroopers is typical of the feeling Mr. Rockwell puts into all of his work. Instead of ignoring details, he uses them to convey important characteristics of the individuals. With faultless draftsmanship he gives each figure in his sketches a distinct personality.

SKETCHED BY *Norman Rockwell*

DUFFEL BAGS
PILED ON REAR SEATS

HE'S PASSING
HIS HOME TOWN

PENNY
ANTE

TELLING ABOUT HIS FIRST JUMP

Courtesy of The Saturday Evening Post, *The Curtis Publishing Co.*

Norman Rockwell

These sketches, made in crayon, are reproduced by high-light halftone. *Courtesy of* The Saturday Evening Post, *The Curtis Publishing Company.*
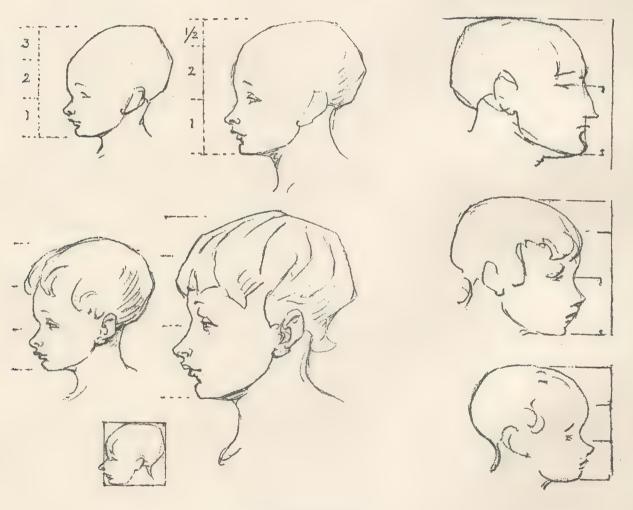
Drawing the Head
According to George B. Bridgman

IN AN adult head, the eyes are located approximately halfway between the top of the head and the chin. The head and face of an infant, however, may be divided into three parts, the eyes on a level with the top of the lower third. In all heads the base of the nose is placed halfway between the eyes and chin; the mouth, two thirds the distance up from the chin to base of nose. The level of the eyes rises from the one-third mark to the halfway mark as age advances.

There is also a marked difference in the formation of the head with varying ages. The head of the infant is elongated and somewhat oval in form, while in the adult, the forehead recedes, the cheekbones become more prominent, and the jawbone is more angular. In the infant, the forehead is full, and it recedes down and back toward the brows; the jawbones and other bones of the face are diminutive, and the neck is small as compared to the head. As the youth grows, the face lengthens, but the head above the brows does not increase in size in proportion to the lower part of the face.
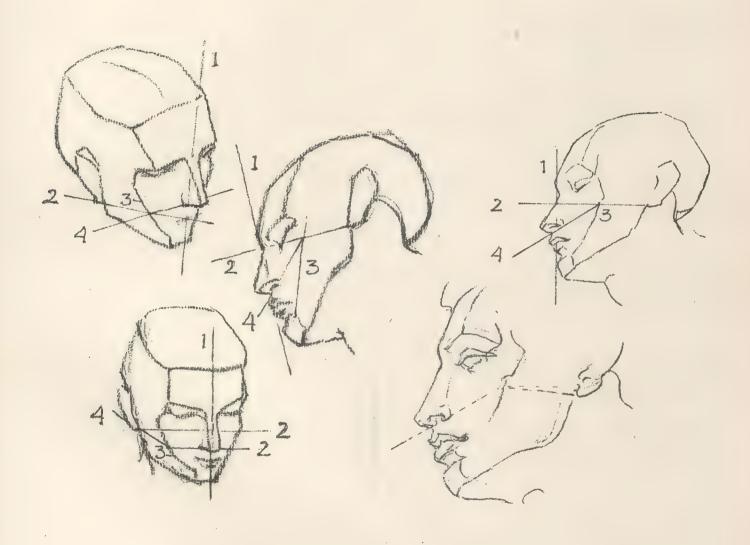
From Heads
Courtesy of Bridgman Publishers, Inc.

George B. Bridgman

It takes but four lines to establish the positions of the features. Line No. 1 is drawn first, and should follow a vertical course down the face, touching the root and base of the nose. Line No. 2 is drawn from the base of the ear at a right angle to No. 1, with no relation to the face as to where this line crosses. No. 3 is drawn from the cheekbone at its greatest width to the outer border of the chin. Where Lines 2 and 3 intersect, start

Line No. 4 and carry it to the base of the nose. Whether the head is seen from above or below, the features will follow Line No. 4.

In profile at eye level, the center of an adult's head appears a little below where the hook of a pair of spectacles curls around the top of the ear. If this line were continuous, it would pass through the eyes, dividing the head into two parts. The base of the ear is level with the base of the nose.

From Heads
Courtesy of Bridgman Publishers, Inc.
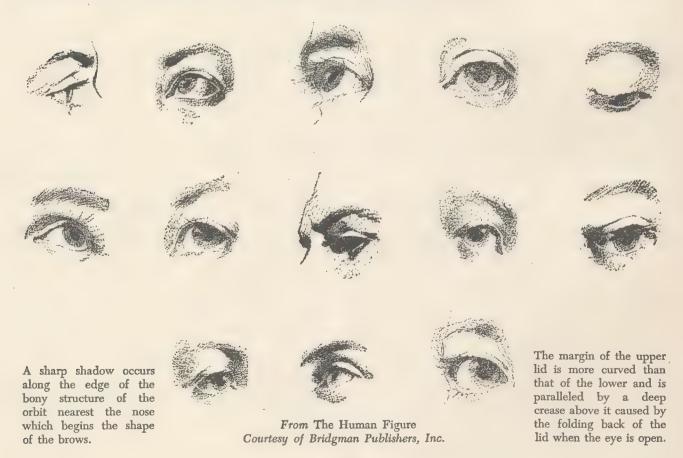
Drawing the Eye
With sketches by John H. Vanderpoel

EYE SOCKETS are somewhat rectangular in form, and from this concavity the convex or spherical form of the eyeball, with its enveloping lids, presses outward. The degree the eyeball protrudes depends upon the amount of fat within the orbit of the eye on which the globe rests. If the fat within the orbit is scant, the eyes appear deep-set and sunken.

The prominence of the brows also governs the setting of the eyes: when the brows overhang, the eyes seem deep-set; but when the brows are less pronounced, they cast less shadow on the eye, which gives a shallow effect to the eye socket.

The upper eyelid is longer and more movable than the lower and has longer eyelashes. The width of the eyelid is sufficient to cast a shadow on the surface of the eyeball, which accounts for the accent usually indicated by artists to determine the degree the eye is open. The width of the lower lid is less than that of the upper and, appearing where it catches the light, is frequently indicated as a light ridge. When the eyes are closed, the shape follows the form of the eyeball; when they are open, the eyelids are withdrawn in folds under the brows.

Modifications in the amount of eyeball shown govern expression. Delicate shadings of difference can distinguish one emotion from another. The difference between delight and surprise may be slight, but distinguishable. Pages devoted to expression in the foregoing section of the book on "Comic Drawing" should be referred to again at this time. With those lessons learned earlier and a more careful observation of the anatomical construction of the eye, the student should be adequately equipped to practice drawing this important feature which contributes so much toward obtaining a likeness.

A sharp shadow occurs along the edge of the bony structure of the orbit nearest the nose which begins the shape of the brows.

From The Human Figure
Courtesy of Bridgman Publishers, Inc.

The margin of the upper lid is more curved than that of the lower and is paralleled by a deep crease above it caused by the folding back of the lid when the eye is open.
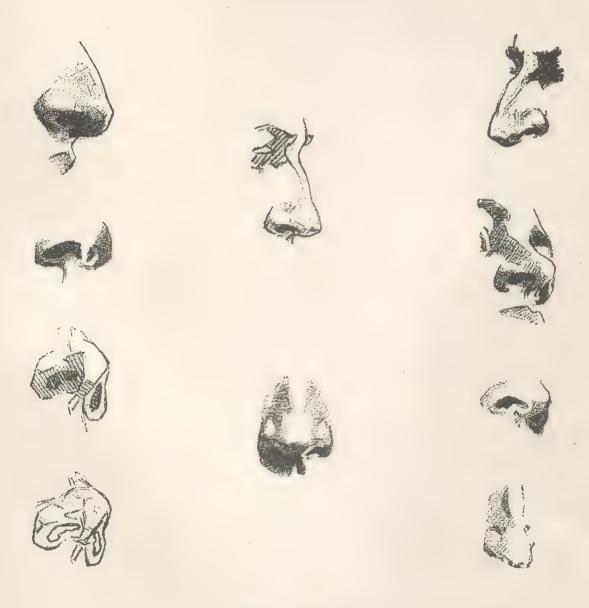
Drawing the Nose
With Sketches by John H. Vanderpoel

THE NOSE is a distinguishing characteristic in the representation of a portrait, and its particular construction should be observed carefully. Its shape is subject to the opening in the skull for the nasal passages.

This opening, which resembles an inverted version of a playing-card heart, varies with the skulls of different races of people. It is broad and short in the negroid race, and long and narrow in the white race, varying in degree from broad to narrow between the Mediterranean and North European peoples.

The nasal bones forming about this opening shape the nose at the root which is between the eyes and cause variations of form of the cartilage at the point of the nostrils.

From The Human Figure
Courtesy of Bridgman Publishers, Inc.

Drawing the Mouth and Chin
With Sketches by John H. Vanderpoel

OF ALL THE features, the mouth is most mobile and therefore capable of the greatest range of expression. The mass of flesh which comprises it is raised slightly from the bony structure behind it, the only attachment being at the base of the nose and halfway down to the chin. Freedom of movement in the elements of the mouth is dependent upon the many muscles which surround it. There are muscles that raise the upper lip, others that affect the corners of the mouth, some that draw the corners downward, and there are those which depress the lower lip.

The slight upturning of the lines at the corners of the mouth creates a pleasant countenance; the drooping of these lines casts the impression of sullenness. The open mouth may express surprise and awe, also disgust and laughter. Coupled with a vacant stare in the eyes, the open mouth can assume a silly aspect. A line associated with mouth expression is a furrow which separates the rounded form of the cheek from the wing of the nose, and which passes downward and outward, fading away near the corners of the mouth. It appears deepened with the nose wrinkled and when the mouth is depressed, the lips drawn tightly over the teeth.

Expression cannot be conveyed by one feature alone; the eyes, the nose, and the movable portions of the skin from the hairline to the chin are interrelated in expressing emotions. Suffering is expressed when the skin of the forehead is drawn down and wrinkled, the skin of the nose is wrinkled, and the upper lip is drawn up. This causes the angles of the mouth to appear somewhat square.

Laughter is shown by the mouth open; the corners drawn back and upward will produce a broad grin. Meditation is suggested by showing the mouth closed, the muscles relaxed, and the corners of the mouth turned slightly downward or upward to denote reaction to the present thought. A depression of the corners of the mouth conveys ill temper, and, when the lips are extended in a

From The Human Figure. *Courtesy of Bridgman Publishers, Inc.*

pout, the effect is sulkiness. Compressed lips and tightly closed mouth indicate determination.
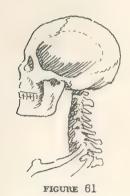
Indignation is expressed with the compressed mouth in conjunction with raised nostrils and a sharp eye, brows lowered and slightly wrinkled at the point of the root of the nose. In rage, this effect is intensified, and the veins of the neck and forehead are shown distended. The lips may be shown retracted to expose the teeth. To effect a sneer the upper lip should be shown drawn back to permit the eyetooth to be seen.

To draw these and other expressions, the student should study the faces of the people he meets. Much knowledge may be acquired concerning human nature, as well as information about facial anatomy, by observing the subtle changes in expression caused by the slightest action of the muscles of the mouth.
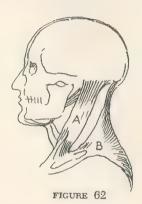
The action of the mouth depends on the movement of the lower jaw, and with this the chin plays its part in the general effect. Lacking mobility of itself, it nevertheless expresses a great deal concerning the character of the individual, as is implied by frequent reference to a chin's being strong or weak. In the former type, the base of the chin is broad and sometimes protrudes beyond the lower lip. In the latter, it falls back under the lower lip and appears pointed. In the more normal type it falls approximately under the lower lip. At the center of the lower border of the chin there is a depression which varies in individuals from a slight concavity to a deep crease.

Drawing the Neck

FIGURE 61
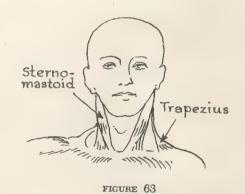
Skull and neck vertebrae

FIGURE 62

The vertebrae encased by muscles: (a) sternomastoid muscle, (b) trapezius muscle.

FIGURE 63

To THE portrait painter, the neck is an important element for suggesting poise in his subject and because its surfaces offer interesting effects in light and shade. There is a marked difference in the character of the male and female necks; the former, short and thick, rises almost vertically from the shoulders, whereas the neck of the woman is longer, slenderer, and more graceful and leaves the body in a forward direction.

Basically cylindrical in shape, the neck appears shorter in back than in front, and a fullness on the sides continues forward and downward, ending at the top of the sternum, or breastbone. These bands are muscles, the sides of which form the pit at the throat below the Adam's apple.

Referring to the skeleton (Figure 61), we see how the skull is attached to the seven neck vertebrae which pass through and support the soft tissue surrounding them. The uppermost vertebra is called the *atlas* because it supports the globe above it. Muscles surround the neck vertebrae, many of which are not noticeable because they have no direct influence on the surface walls of the throat. The two important muscles for the student to observe are the sternomastoid muscle, described above, and the big trapezius muscle,

Drawing the Neck
(continued)
With Sketches by John H. Vanderpoel

which is attached to the base of the skull and follows the spinal column down to approximately the middle of the back. The trapezius muscle is triangular in shape, one side being attached to the spine of the scapula where it joins the deltoid (Figure 62). This muscle supports the neck on the sides and in the back and connects it with the body. Between the trapezius and the sternomastoid muscles is a hollow which is pronounced as the head is tilted to one side.

When drawing the neck, the student should not emphasize the muscles too strongly, as this treatment gives a bony appearance and deprives the neck of much of its beauty. If the muscles are shown rounded, the general effect will be more pleasant. The cords of the sternomastoid muscles may be indicated more prominently than the others without producing an unpleasant effect (Figure 63).
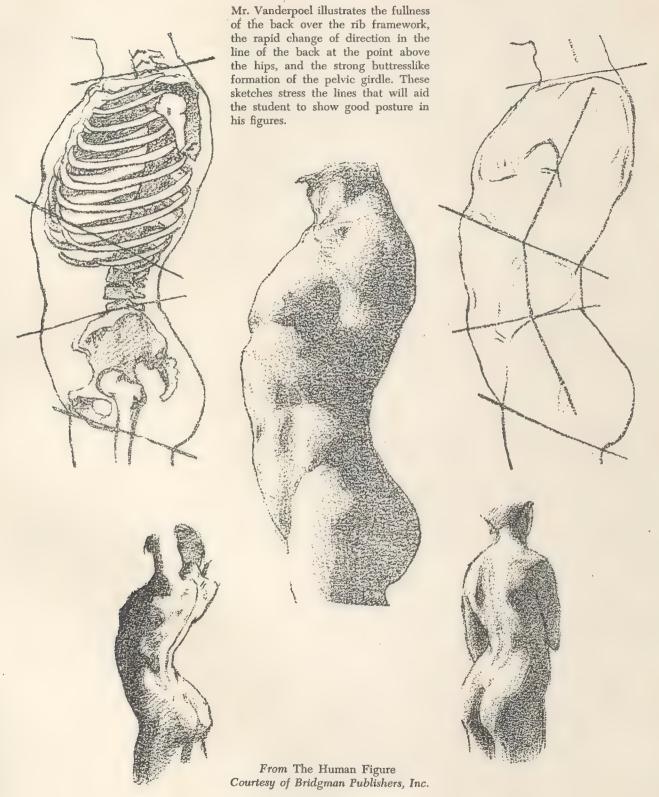
From The Human Figure
Courtesy of Bridgman Publishers, Inc.

Drawing the Torso
With Sketches by John H. Vanderpoel

Mr. Vanderpoel illustrates the fullness of the back over the rib framework, the rapid change of direction in the line of the back at the point above the hips, and the strong buttresslike formation of the pelvic girdle. These sketches stress the lines that will aid the student to show good posture in his figures.

From The Human Figure
Courtesy of Bridgman Publishers, Inc.
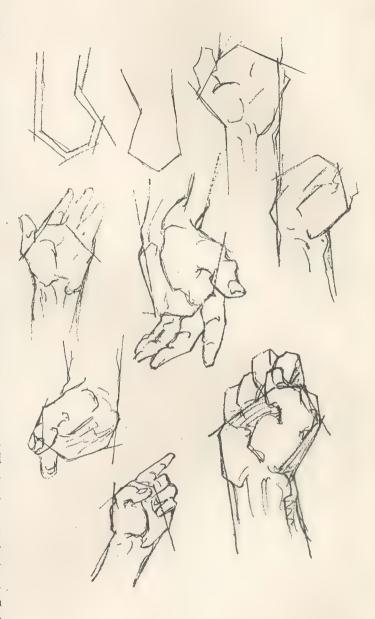
Drawing Hands
With Sketches by George B. Bridgman

WHEN DRAWING hands the student should keep in mind a few anatomical facts to help him depict this member of the body which, above all others, tests the ability of the draftsman.

Flexibility at the wrist is the outstanding characteristic—a freedom not permitted other parts of the skeleton. This joint permits a rotary motion which couples grace with suppleness, yet it can become rigid and powerful. To the wrist are attached the bones which form the back of the hand and the first joint of the thumb. These are called the metacarpal bones. To these, the finger bones, or phalanges, are hinged at the knuckles, the first of which is the length of the two remaining joints.

When the fingers are extended side by side, they taper toward the middle finger, which usually is the longest. The fingers appear to be longer when seen from the back because the digits begin with the knuckle, whereas the palm continues past the knuckle to a point halfway along the length of the first joint. In drawing the hand palm upward, construct the rectangular shape of the palm extending from the wrist, and add the fingers and thumb afterward. When sketching the clenched fist, observe the angles of the back of the hand and the first joint of the fingers, and the intersection of the line of the thumb at the junction with the wrist.

Remember that the hand is broader at the knuckles than at the wrist, but the wrist is thicker than the hand at any point other than the fleshy base of the thumb. Fingers do not extend out in four different directions; it is characteristic of them to appear with at least two associated in the same action, one, or possibly two, gesticulating independently.

From Book of a Hundred Hands
Courtesy of Bridgman Publishers, Inc.

Sketches by George B. Bridgman

From Book of a Hundred Hands
Courtesy of Bridgman Publishers, Inc.
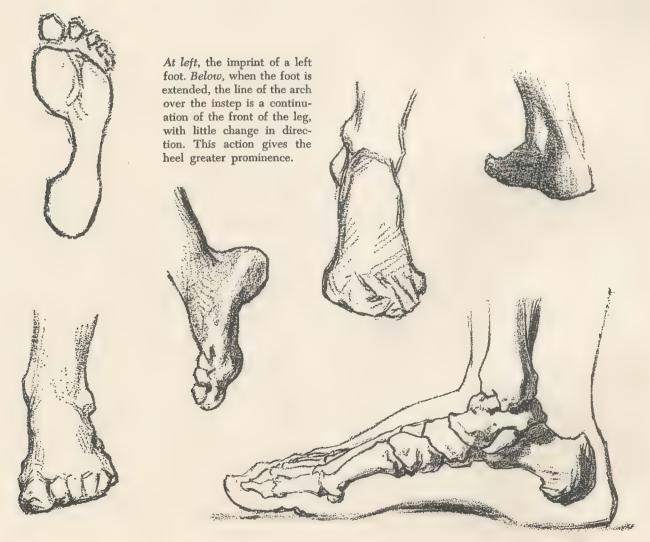
Drawing the Foot
With Sketches by John H. Vanderpoel

Courtesy of Bridgman Publishers, Inc.

ALTHOUGH drawings of the foot show it encased in a shoe in most instances, the important fact for a student to remember is that the foot supports the weight above it by an arch springing from the heel and a pad located to the rear of the toes. Viewed from the inside, this arch is prominent; from the outside the foot appears flat, touching the ground line from the toes to the heel. An imprint of a wet foot will indicate which portions come in contact with the floor level.

Two bones are prominent in the ankle, one on each side. The one on the inside is located higher than the other. Following a formation of bones, not unlike their counterparts in the hand, the foot broadens as it leaves the junction with the ankle, its greatest width being at the point of the first joint where the toes are joined.

A strong tendon, attached to the back of the heel, passes upward to the calf of the leg and creates a pocket between it and the anklebones.

At left, the imprint of a left foot. *Below,* when the foot is extended, the line of the arch over the instep is a continuation of the front of the leg, with little change in direction. This action gives the heel greater prominence.

John Singer Sargent, N.A.

Courtesy of The Metropolitan Museum of Art
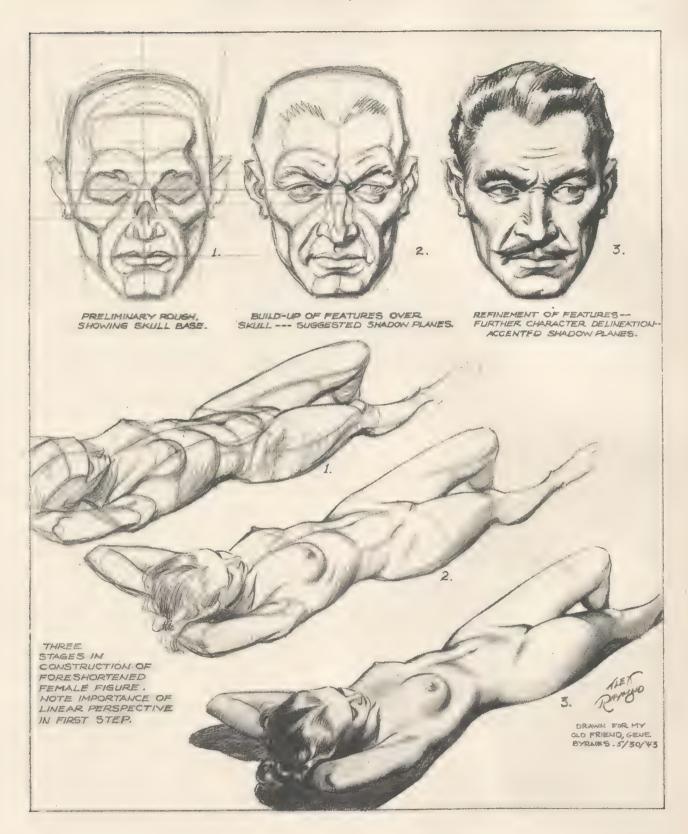
THIS CHARCOAL study of two men by the late portraitist and muralist is distinguished by the firm lines which define the contour of the muscles and the simplicity of the shading. The prominence of the deltoid, which covers the shoulder and lifts the arm sideways, features the action in each sketch, and shows that when the arm is raised backward and upward the shoulder joint is forced forward. This action creates a pocket below the level of the clavicle, which Mr. Sargent emphasizes with shadow.

Lines which mark the contour of the various masses of the body do not necessarily "outline" the figure. As they meet or overlap other forms, the figure takes on its three-dimensional proportion. Notice how the upper part of the torso joins the lower portion of the body. The lines intersect at right angles.

Before starting to draw the figure, the student should have clearly in mind some idea of what the figure is doing. Then give consideration to the placing of the drawing on the paper, indicating the length and breadth of the figure. Block in the prominent masses with straight lines and establish the overall proportions of the figure before developing the curves that mark the contours of the forms. The beginner should practice drawing the figure as a whole before he studies the detached parts, such as the head, hand, foot, and the facial features. To study the parts prematurely imposes a difficulty on students when the parts are combined in a figure in action.

A Demonstration by Alex Raymond

PRELIMINARY ROUGH,
SHOWING SKULL BASE.

BUILD-UP OF FEATURES OVER
SKULL --- SUGGESTED SHADOW PLANES.

REFINEMENT OF FEATURES --
FURTHER CHARACTER DELINEATION-
ACCENTED SHADOW PLANES.

THREE
STAGES IN
CONSTRUCTION OF
FORESHORTENED
FEMALE FIGURE.
NOTE IMPORTANCE OF
LINEAR PERSPECTIVE
IN FIRST STEP.

DRAWN FOR MY
OLD FRIEND, GENE
BYRNES . 5/30/43

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Drawing Children

CHILDREN PRESENT a problem to many artists because of the differences, other than size, between the adult figure and that of the child. The relative proportions between the parts of the body differ with each, the size of the facial features in relation to the skull differs, and the rounded flesh of the average child obliterates all semblance of the bony structure. The study of child anatomy must recognize the rapid change in the functions of the developing limbs. In fact, there is a different anatomical condition at each of the progressive stages from the newborn to the teen-age child. From the wrinkles and creases in the almost shapeless mass of flesh at birth to the gawkiness of youth, the artist must make these differences his objective, and attain them if he is to depict the age of the child in his illustration.

The habits of children also help to determine their age. It is interesting that a newborn babe has such power in the grasp of his hands that it can hang from a stick for a brief time by clutching it with his hands. The legs, however, are not strong enough to support the body for a considerable length of time. In the earliest attempts at creeping, the child's arms and hands play as important a part as the hind-quarters. But with growth, the legs become longer and stronger and the forelimbs less necessary for movement or balance.

The development of the backbone has also its part to play in the child's becoming erect. At birth, the spine has less curves than later, the child's backbone resembling a slight bow, the adult's having a double curve (Figure 67). This explains the straight line of the infant back that changes to the large arch (the convex curve) and the pit at the small of the back (the concave curve) in the adult.

It is easy to make a child look too old. This fault follows the error of drawing children with the proportions of adults, and locating the features in the head according to adult proportions. To draw them half or two thirds the height of the adult figures in the illustration makes them look like midgets, not children. Miss Priscilla Pointer, prominently identified with child subjects in the art field, offers a series of measurements which will prove helpful to all students of child drawing. Like all essential information in the artist's training, these facts should be memorized. The drawings by Miss Pointer reproduced here are from her book, *How to Draw Children*, published by Studio Publications, Inc.
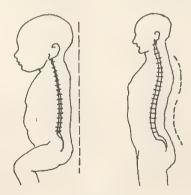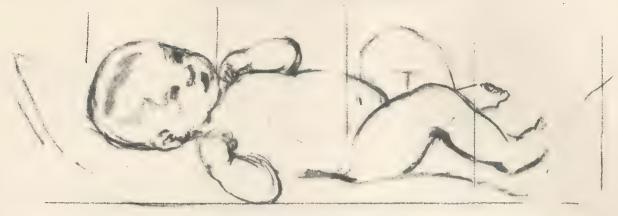
FIGURE 67

The shape of the spine in an infant and in an adult, showing the effect on the posture.
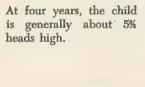
Proportions Change as the Child Grows
Drawings by Priscilla Pointer

At birth the baby is nearly four heads high.

At four years, the child is generally about 5½ heads high.

Age eight: a child is little over six heads high. The legs have grown longer and the tips of the fingers reach halfway down the thigh.

When one year old the baby is about 4½ heads high.

The eleven-year-old child is approximately 6½ heads high. From this stage until he becomes an adult, he broadens, but the heads-high measurement changes only slightly.

From How to Draw Children, *$1.00*
Courtesy of Studio Publications, Inc.

Priscilla Pointer

If you do not obtain a likeness
in the first attempt, start afresh;
do not labor over your failure,
scrubbing it with an eraser. This
destroys the crisp quality of
your sketch.

From How to Draw Children, *$1.00*
Courtesy of Studio Publications, Inc.

Drawing Children
by Priscilla Pointer

As BABIES AND small children are more or less constantly moving, it is important to "capture" the pose you want with the fewest possible lines. The use of a very soft pencil is advisable, as it responds with the slightest pressure and can therefore give a light and sympathetic line.

First indicate the head, next the body direction, and then add the lines that suggest the action and the general location and movement of the arms and legs. Once the pose is established, your little model can be watched until he falls into the same or at least a similar position, when the feet and hands and the location of features can be drawn.

Once the proportions and the contours have been determined, tone can be added which will give form and bulk. From this point on you can go into as much detail as you like without losing any of the original "aliveness" of your sketch. Keep the drawing free in feeling, to suggest the constant activity of the youngster. This is the secret of drawing very young people.

The first few lines establishing the action are drawn.

They are developed further.

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The baby takes shape. Observe that the lines that define the action are strengthened and that no one place is finished ahead of another. This procedure is helpful in keeping the sketch unified in treatment.

Features, hands, and feet are now developed, and hair is suggested. All important lines are refined and the folds in the blanket are indicated. We are now ready for tone.

The light is directed from the right and above, which throws the shadows on the side of the face, arm, and leg. Observe that the shadow has a soft edge on surfaces where it passes into light, and a sharp edge where shadow is cast by part of the garment.

Portraiture

THE FASCINATION portraiture holds for artists may be said to spring from the opportunities it offers to express not only the personality of the subject but that of the artist himself. Great portraiture is represented among the highest works of art. It is difficult to recall a truly great portrait that is not a masterpiece of composition as well. Arranging the various areas of light and dark and of color calls for the highest degree of skill in designing. Therefore, it involves much more than the capturing of a likeness or the conveying of one's character to canvas.

No portrait, however well painted, can be considered a great work which suggests that the sitter was posed and that the posture was chosen for the purpose of the painting. The more obvious the arrangement appears to be, the less satisfying the result is to the observer. Naturalness in the presentation is a foremost objective.

One need only observe the works of the Dutch and Flemish portraitists to realize how much these artists have done to bring the observer face to face with human beings of their period. Attitudes are unaffected, trifling accessories are omitted, and there is no impression given that space has been filled with irrelevant material. It is difficult to imagine Rembrandt and Hals suggesting a certain pose for a sitter. Rather, it is easier to believe that they conversed with their subjects as they worked, catching the sparkle of the eye as it was brightened by some transient thought, or the turn of the mouth as it uttered some characteristic expression.

Not all famous portraitists were as successful in painting the subject in natural repose as were Rembrandt, Hals, and Velasquez. Van Dyke, as splendid a painter as he was, rendered many of his subjects in "posey" attitudes. While this comment may assume a standard based on the objectives of Rembrandt, Hals, and Velasquez, it is quite possible that Van Dyke sought to record the superficial aspects of court life during the early Stuart period in England and that what may seem to be "posed" in his paintings is a mannerism characteristic of the times.

However, it is the informality expressed in the canvases of the Dutch and Flemish painters, and the sanguine coloring of Velasquez, that offered sources of inspiration to the portraitists of America during the nineteenth century and the early part of the twentieth. The warm flesh tones painted by Copley and Gilbert Stuart show traces of this influence. Even Whistler, who developed a manner of painting distinctively his own, still shows a trace of the leaven that vitalized the art of Velasquez. Rembrandt's concentration of light on the head of his subjects set against a background of impenetrable depth gave dignity to his canvases, and this device has served a similar purpose for many artists, among them John W. Alexander and John Singer Sargent.

It may be said that the art of painting advanced with the development of the painter's skill to handle shadow. In early Renaissance paintings, the head is shown in full light, with only a light shadow vaguely defining the planes under the chin or along the side of the nose. Profiles were painted frequently of Florentines in which the shaded portions of the face were kept to a minimum in importance. In Raphael's *Bindo Altoviti*, in the National Gallery of Art in Washington, we see perhaps the earliest use of full shadow on the side of a face, a treatment which gives great depth to the picture. Modeling of the planes of the face was advanced further by Titian and Velasquez, who may be regarded as the forefathers of the art of portraiture as it is practiced today.

Today the portrait painter must regard the competition offered by the photograph in so far as it challenges him to make a representation of the features of the subject with exactness while searching for those hidden qualities of character which the camera fails to catch. Even the most skillful
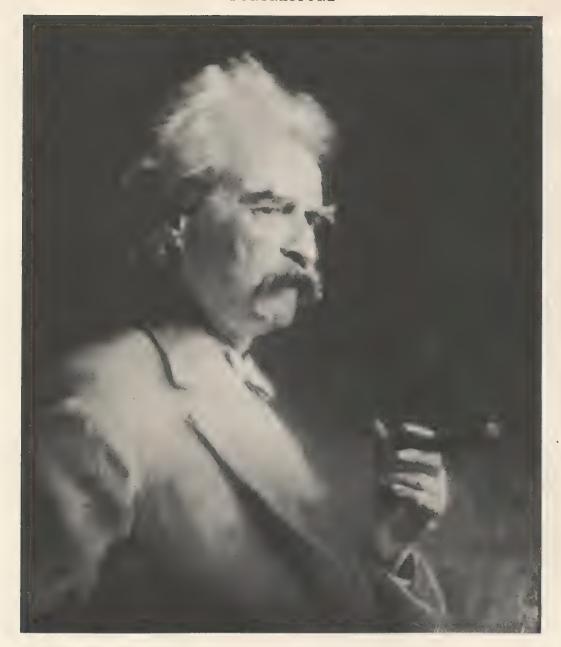
Leo G. Carroll in *The Late George Apley*, painted by Joseph Cummings Chase, is an example of how attention is directed to the head by means of the dark opening of a fireplace. The molding also helps to divide the canvas into interesting areas.

photographers cannot capture this finer quality— the machines cannot become sentient and present all the attributes of personality. But they can, and do, produce the form with faithfulness and with dramatic effect, and this the painter of today must equal with his craftsmanship. This he can do, and frequently does, through his greater fidelity in the observance of tonal values, especially in the range of middle tones, because the human eye is more sensitive than the camera in this respect.

One of the foremost portraitists of the present time is Joseph Cummings Chase, who paints rapidly and virtually completes the likeness in a day or less, conversing constantly with his sitter. This method avoids the "frozen" countenance because as the expression of the subject passes through many phases occasioned by the conversa-

tion Mr. Chase records the subtleties of character.

Gordon Stevenson, also prominent as a portraitist, states: "Before a brush touches canvas, the action and design are visualized and fixed by jottings sufficiently clear so that they may be called 'working plans.' The most favored one is selected and finally takes form as a rough color sketch.

"Up to this point much needed energy is held back that otherwise would be spent too early on an empty canvas. No approach, in every particular, is identical with any utilized before, although the portraits I do now are brought up to a middle stage much in the same way. After I have established a point of view and the sitter is placed in a desired light, the head (and what is to be included of the figure) is drawn in with as much interpretive accuracy as possible, leaving out all nonessen-

Mark Twain, by Gordon Stevenson, after a photograph
Players Club Collection

tials. With a reserved palette—that is, one having a limited range of color—the main forms, true in tone, are painted, while at the same time attention is given to creating a surface quality. This first surface later supports what might be called a final blanket. To attempt to describe my methods in the latter stages would be futile. I only know that each painter has his predilections, his own way of seeing things.

"In visual phenomena I question whether there is anything more arresting than a human head; each one, so like the others, paradoxically is like no other. The first flash of thought that strikes anyone whose eyes become fixed upon a new face is the recognition of a category or type familiar to the observer. With study, the anatomical construction can then be discerned, but this comes afterward, as if it were an undertone striking through the individual 'look' which makes a haunting imprint on the mind and which is the final thing in

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This painting of Mr. and Mrs. John Picozzi by Joseph Cummings Chase shows an interesting arrangement of two heads on the same canvas.

Head of a Young Man by Henry Tonks
Pastel on Paper
Courtesy of The Metropolitan Museum of Art

one's memory to fade away, like the cat's grin in the fireplace. That 'look,' the essence of the personality, is the central point of the painter's aim."

Choice of expression calls for study of the subject. It should be natural, and one that portrays the sadness or joyfulness or some other state of mind of the sitter. Labor to obtain the expression should be reserved until the general characteristics of the likeness have been registered so that the painter may avoid losing some subtle touch while working on the more basic structure of the portrait.

The student should study his subject from every point of view and in every light, so that the angle selected for the painting or drawing will present the most outstanding characteristics. By careful arrangement of draperies, by the use of screens to cast shadows, and mirrors to reflect light, the portraitist can obtain nearly every effect he desires.

Palettes of portrait painters have certain colors common to all, variations in the names of the pigments indicating personal preferences. An average of the six palettes consulted includes: zinc white, cadmium light, cadmium dark, yellow ocher, ver-milion, rose madder, emeraude green, cobalt blue, burnt umber, and ivory black. Although black was used by many of the great painters in the past, it is dangerous and is accorded much respect by the foremost painters today.

Mr. Stevenson, who studied at one time in the Madrid studio of the Spanish master, Sorolla, who is famous for his representation of sunlight, states that Sorolla had black on his palette but used it sparingly. "Black produces a cindery quality when used in shadows," Mr. Stevenson says; "when I use it, which is with much restraint, it is in the middle tones ranging toward light rather than downward toward dark. Used this way, it produces cool, silvery tones when mixed with the flesh color."

Pages that follow contain the work of many leading exponents in this field of art, on canvas, in crayon, pen and ink, and water color. Included is the work of caricaturists, who overemphasize prominent characteristics, sometimes in a lighter vein for humorous presentation, and sometimes because such emphasis dramatizes the character forcibly.

S. J. Woolf Sketches Gene Byrnes with Charcoal

1. A few lines locate the features and define the main divisions of the head. The characteristic hairline is established over the brows.

2. The contour of the side of the face is sketched in. This line is important in reproducing a good likeness. The ear is located.

3. The eyes are placed under the brows, the mouth, nose, and ear are drawn more carefully, and accents are introduced into the features.

4. As the drawing progresses, the form of the features becomes more definite, and the relation of one to another is watched carefully.

S. J. Woolf

5. Values begin to appear but are kept light. Lines of expression over the nose and a more careful study of the eyebrows are evident.

6. Values are increased in depth. Observe the development under the nose and around the mouth. The line of the chin is strengthened.
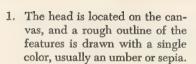
7. Middle values model more perfectly the planes of the face and neck. Lines indicate the coat lapels, and the picture takes shape.

8. Lights are introduced into the dark mass of hair, giving it a wavy effect. Mr. Woolf treats clothing very broadly and without detail.

Robert Phillip Paints a Head in Oils

1. The head is located on the canvas, and a rough outline of the features is drawn with a single color, usually an umber or sepia.

2. Areas for light and shade are selected, the shadow tone being painted without modeling. Observe the contour of the shadow.

3. Value of tones is established; the hair is painted flat for the present, and the eyes are indicated. Background defines edge of face.

4. Modeling of the face begins; hair and shadow on side of face and neck are developed as single mass. The shape of the nose is defined.

5. The features are refined; a light-and-dark pattern is developed in the hair, and the portrait begins to take final shape.

6. Background is completed to edge of canvas; tie and collar are sketched, and work continues on the features and clothing.

7. The portrait is finished with the final touches on the clothing. High light on the collar remains the lightest value in the picture.

Bradshaw Crandall Works in Pastel

1.

Working with the aid of a model, Mr. Crandall makes a charcoal sketch (*at left*) on a heavyweight illustration board and fixes it with a solution of wood alcohol and white shellac. As the board has a surface too smooth to hold pastel, he paints the board (*above*) with a solution of hot water glue and powdered pumice, using a fine-grade varnish brush. This gives a surface to the board not unlike sandpaper, and very durable.

2. The solution applied in this instance was colorless, but water color can be mixed with it, giving any colored surface desired as a background.

3. Spots of different colors are applied to the scarf, flesh color is worked over the charcoal drawing, and shadows in color replace grays.

4. Middle values in color are developed which are influenced by the colors in the scarf. The face is modeled; its bony structure emphasized.

Bradshaw Crandall
Courtesy, Cosmopolitan Magazine, *used as cover*

5. The pupils of the eyes are indicated; accents are placed on the scarf, and the hair is softened. The portrait nears completion.

6. Attention is now given to the expression, a development which awaits the full modeling of the face. Observe what has happened to the mouth.

7. A light background is chalked in, to give to the portrait additional contrast. The whole countenance is softened and the picture is pulled together.

Mr. Crandall always works with a clean white board as his palette, and as he chooses his colors from the pastel boxes, they are kept on the white board. At right is the completed picture as it appeared on the cover of *Cosmopolitan Magazine*. Light greens and blues were introduced into the flesh tones as complementary to the reds and yellows in the scarf.

8.

How to Obtain a Likeness
by Joseph Cummings Chase

ACCURACY OF outline doesn't make a likeness; it is the accents that do the trick. What is the sitter doing with his features? What is it that makes him quite different from all other people? Will Rogers was talking, and so his mouth became the thing of first importance, then bits of his face that contributed to his own peculiar expression. One accent after another, all contributing.

In fact, making hundreds of sketches of models unaware of what I was doing proved to be wonderful training in obtaining a likeness, and I proceed in much the same way while painting a portrait. After putting on some of the flesh color in the development of what painters call the "envelope," I proceed into and upon that "envelope" with lights and shadows of color, creating the accents that mean likeness. All of the surfaces and the accents are developed further as may seem desirable.

These sketches of Will Rogers and Alfred E. Smith were made in pen and ink and were reproduced in Mr. Chase's book, *The Romance of an Art Career.*

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Drawings by Edward Renggli

MR. RENGGLI begins his drawings of the head by making simple guide lines to block out the major divisions of the mass. Refinement of the features proceeds slowly. Contrast in textures features his work; with delicate shading, he models the planes of the face, then with vigorous lines draws in the hair, following the direction of its flow with sweeping strokes. Observe how he creates the suggestion of the high light on the hair: a few lines with white spaces left between them give all the information needed.

Suggestions offered on preceding pages for the drawing of facial features are well illustrated in Mr. Renggli's work. Note the eyes in the drawing of the girl at the top of this page: the thickness of the lower lid is indicated by the high light formed between the line marking the inner edge and the light tone under the lid. The pupil of the eye has a dark ring around the outer edge, within which lies a light area before approaching the center, where the accent is small.

From How to Draw the Head in Light and Shade
Courtesy of Bridgman Publishers, Inc.

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Drawings by Edward Renggli

From How to Draw the Head in Light and Shade
Courtesy of Bridgman Publishers, Inc.

Caricature by Henry Major

WORKING rapidly, Mr. Major uses a soft pencil on drawing paper with sufficient texture to effect a strong tone suitable for line reproduction. The secret of caricaturing, he says, is to bring out the predominating features; for example, if a man has a big nose, start sketching that and draw the other features in relation to it. The difference between a straight portrait and a portrait caricature is that in a straight portrait you emphasize the main characteristics and in a caricature you exaggerate them.

SELF-PORTRAIT

sketched in 32 seconds

Caricature
William Auerbach-Levy

FIRST SKETCH   SECOND SKETCH   THIRD SKETCH

THE INITIALS WAL have identified the creator of caricatured portraits of many persons who are foremost in the public mind. Mr. Auerbach-Levy works deliberately, studying his subject in preliminary sketches before making a selection for a more careful drawing in a larger size. These early studies are made in pencil, the finished work is rendered in black ink, and a minimum of middle tone is used.

In the acompanying drawing, made for *Collier's* magazine, the heavy shock of hair and the prominent, bushy eyebrows contrast with the small nose and mouth. The heavy jaw formation is also emphasized by Mr. Auerbach-Levy.

ENLARGED STUDY

William Auerbach-Levy

This caricature of John L. Lewis shows the power of a firm, strong line controlled by an expert draftsman. Every line of the face has been studied, and the nonessential ones have been eliminated. The intersection of the lines defines the planes of the face without the use of toned areas.

Courtesy of Collier's, The National Weekly

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Carl Rose

Drawings from *Try and Stop Me,*

by Bennett Cerf

P. HAL SIMS

PROFESSOR ALBERT EINSTEIN

HEYWOOD BROUN

ALEXANDER WOOLLCOTT

Drawing Animals

To draw animals well, one has to be their friend, and this goes for the wild variety as well as the pets. The peculiar characteristics of the different species must be studied as only a friend would study them. Generally, artists are fond of animals whether or not they make a practice of drawing them. Animals are graceful in motion regardless of their size, and the perfect co-ordination of their muscles holds a certain fascination for the artist who revels in observing and recording on canvas or board the rhythmic flow of line.

Anyone who has stood by the cage of the black panther at a zoo, and watched the undulating contour of the body rise and fall as the beast paced back and forth against the bars, must have been impressed with the grace and ease of its movement — a muscular co-ordination without equal in the animal kingdom. As the big cat stops and slips slowly to its haunches as it reclines, the head remains erect, alert, and dignified. The sweeping curves that denote the perfect poise and the powerful back are impressive. The animal has personality, and the artist who senses this personality will recognize the attributes which compose it.

All animals have characteristics as interesting to observe as those of the panther. Even the ponderous elephant is rhythmical, though slow, in its movements. The black bear, probably the most intelligent of the wild animals, is capable of performing antics not unlike household pets, and in national parks where they have become accustomed to the sight of humans they have shown a tendency to mimic their visitors. The looseness of the bear's muscular action presents a spectacle of co-ordination which is simple to study.

When an animal travels forward by motion of its limbs, the limbs alternate in a forward and backward action. The action of the four limbs is not synchronized, but each seems to move inde-

BY PAUL BRANSOM

A sketch of a panther in charcoal, from Mr. Bransom's notebook, shows the value of solid mass and contours.

BY PAUL BRANSOM

Using two pieces of tracing paper, torn from an old-time letter copying book, and pasted together, Mr. Bransom sketches this tiger with a soft piece of charcoal at a New York zoo.

pendently of the others, according to the rapidity of the action. The horse has probably the greatest number of variations of movement, which become in a general way inclusive of those of other animals. They are: the walk, the amble, the trot, the rack, the canter, the transverse gallop, and the rotatory gallop. When the animal leaps, it can be considered an interruption of one of the foregoing processes.

Beginning with the walk, it will be observed that a horse, standing with its weight equally distributed on the four legs, will invariably make the first step with a hind foot. The forefoot on the same side will follow, and as the horse moves forward the opposite hind foot is the third to be moved, followed by the corresponding forefoot. During one stride of the animal, its weight is shifted so that it falls twice on a combination of

two forefeet and on one hind foot; once on the front and hind feet of each side; twice on two hind feet and one forefoot; and once on each combination of diagonals — a total of eight different arrangements of support.

Interest of the student in the motion of animals may be increased if consideration is given to the stride of a human. Assuming that the arms are the equivalent of the forelegs of the animal, it will be noted that a similar action takes place with both the man and the animal during a walk. There is no synchronization of both feet with both arms as there is none between the forefeet and the hind feet of the animal. Rather, as a man moves his right foot forward, and, while it is not yet on the ground, the right arm starts forward, it will be observed that its swing has ended before the left foot has completed its step. The right arm is
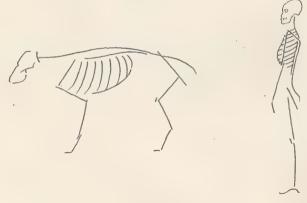
FIGURE 61

Shows similarity between the bone arrangement in the skeleton of a human and that of a quadruped.

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on its backward course just as the left arm begins its swing forward. It seems that the arms follow the action of the legs on a diagonal system but are a split second behind in their cadence. This is because the power of locomotion is in the lower limbs of man and the hindquarters of the animal.

In the amble, an accelerated phase of the walk, the sequence of hoof movements remains the same, but because of the more rapid pace a hind foot and a forefoot are raised alternately from the ground, which throws the support of the animal successively on different combinations of first one foot and then two feet.
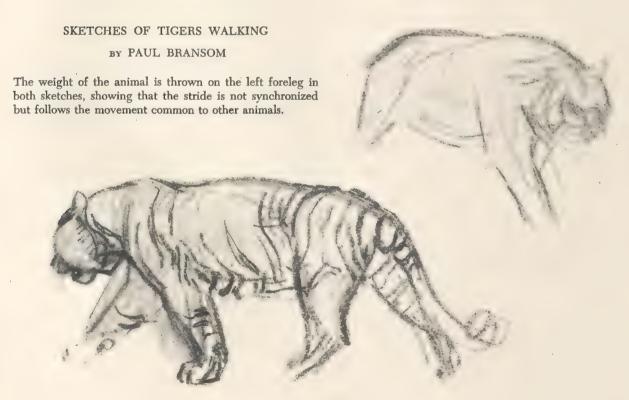
In the trot, each diagonal pair of legs is moved forward and placed on the ground with a greater degree of synchronism than in the walk, and twice during the progress of a single stride the animal is traveling without definite support.
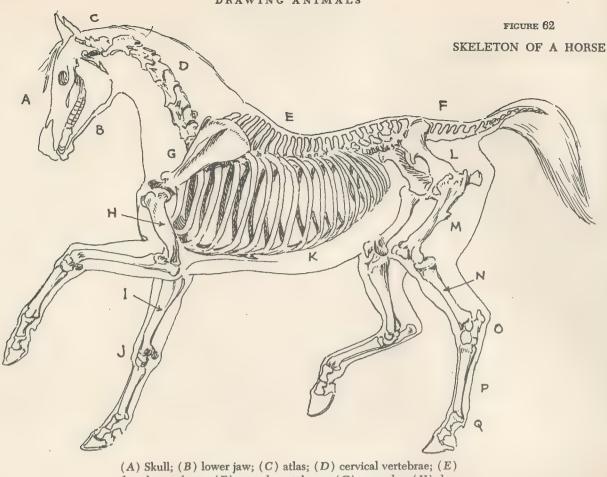
The rack differs from the trot inasmuch as the animal uses the foreleg and the hind leg on each side together instead of diagonal pairs. In the canter, the same sequence of hoof movement as in the walk prevails, but the animal springs from

its forefeet and seems to land more heavily on the hind feet, following the diagonal system.

It is in the gallop that artists most frequently show the horse in action, and their familiarity with the animal's movement is quickly recognized in their drawings by riders, hunters, and horse devotees. The artist's unfamiliarity with the action may also be detected. The transverse gallop occurs when the animal starts with the left hind hoof and successively follows with the right hind foot, then the left forefoot, and finally the right forefoot, or in a similar "cross" movement beginning with the right hind hoof. The rotatory gallop proceeds clockwise or counterclockwise. The transverse gallop is common with the horse and a large number of other animals; the rotatory gallop is used by the dog and the deer.

In studying the anatomy of the animals it is interesting to observe the similarity between the skeleton of the human figure and that of the quadruped (Figure 61). Take the horse, for instance: a comparison will show that the groups of bones in the human, and their functions, have direct coun-

SKETCHES OF TIGERS WALKING

BY PAUL BRANSOM

The weight of the animal is thrown on the left foreleg in both sketches, showing that the stride is not synchronized but follows the movement common to other animals.

FIGURE 62

SKELETON OF A HORSE
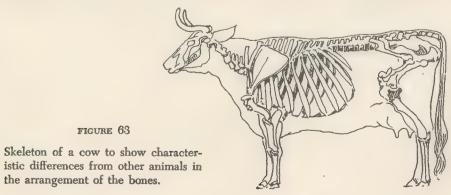
(A) Skull; (B) lower jaw; (C) atlas; (D) cervical vertebrae; (E) dorsal vertebrae, (F) sacral vertebrae; (G) scapula; (H) humerus; (I) radius; (J) carpal bone; (K) ribs; (L) pelvis; (M) femur; (N) tibia; (O) tarsus; (P) metatarsus; (Q) sesamoids.

terparts in the animal. According to the authorities, Charles R. Knight and Tudor Jenks, in their book, *Animals of the World,* anatomists are able to show that the earliest forms of horselike animals had five toes.

Many of the bones in the horse are identified by names used for their counterparts in the human skeleton, as shown in Figure 62. These names ap-

ply to all vertebrates, making comparisons between the skeletons of different animals a simple matter. In the skeletons of certain animals, some bones appear less developed than in other animals, but they are all to be traced to the skeleton of the earliest vertebrate from which all animal life, man included, evolved. Figure 63 shows the skeleton of a cow for the purpose of comparison.

FIGURE 63

Skeleton of a cow to show characteristic differences from other animals in the arrangement of the bones.
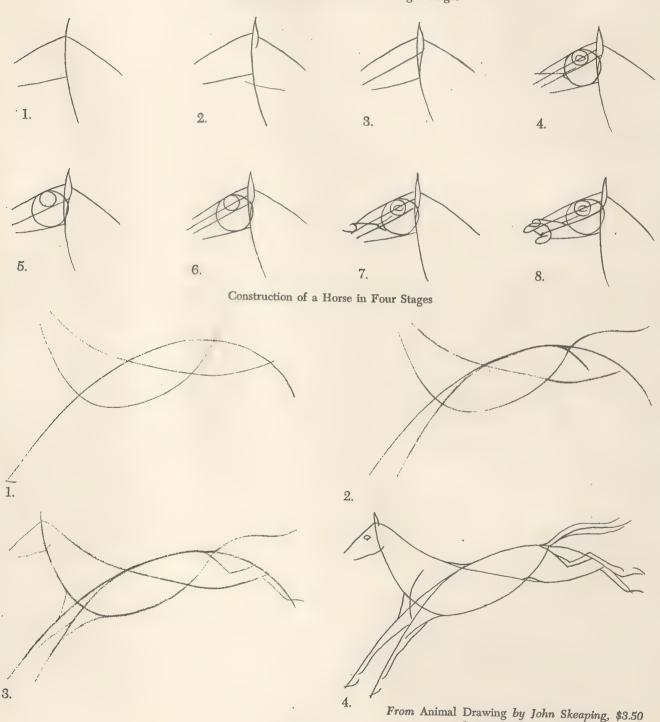
John Skeaping on Horses

MR. SKEAPING, well known for his animal portrayals, is a master at catching the spirit and basic movement of his subject with a minimum of lines. In the sketches reproduced below, he demonstrates successive steps in the development of a horse's head and a horse in action. The student will do well to practice Mr. Skeaping's economical treatment, which is excellent training for a loose style.

Construction of a Horse's Head in Eight Stages

1.

2.

3.

4.

5.

6.

7.

8.

Construction of a Horse in Four Stages

1.

2.

3.

4.

From Animal Drawing by John Skeaping, $3.50
Courtesy of Studio Publications, Inc.

How to Draw a Horse
According to Albert T. Reid

WELL KNOWN for his paintings of the Midwestern stagecoach days of his boyhood, Albert T. Reid gives credit to his mother for his ability to draw horses. Reminiscing, he remembers how she patiently taught him proportions of the animal, using the square for the basis of the drawing. While there would be variations for "the utility breeds or ponies," Mr. Reid explains that the following measurements are approximate for the riding or driving animal.

Following the method taught by his mother, Mr. Reid directs:

"Make a square the size of the horse you wish to draw. He is measured for his height at the withers, (B) by hands. A hand is four inches. A fifteen-hands-high horse would be sixty inches. First, bisect the top line of the square, (A); then bisect these halves, (B) and (C). The neck of the horse is the same length from the poll (D), right back to the ear, to the withers (B), as it is from the withers to the point of the rump (C).

"Next, divide the square on the side that the horse is facing at (E). Then divide the top half at (F), and again divide the half between (E) and (F) at (G). The distance from the top corner of the square (I) to (G) will give the length of the head.

"Indicate a line from (B) to (F) and you have the sloping shoulder. The withers (B) slope down slightly, and from here you draw the back curving to a point a little below the point of the rump (C), where it slopes down, crossing the back line of the square at about one eighth of its length from the top, and out into the tail.

"Next, draw the breast against the front side of the square, down and into the brisket, near point (G). Draw the buttocks, as indicated, against the other side of the square. A horse is approximately one head at the girth, just back of the withers, as indicated by the dotted line. Draw the line of the belly from the brisket, rounding and curving slightly upward to the flank.

"At the height you wish the horse's head elevated locate (D) and draw a line from that point to the withers. Measure the length of the head and draw a line at the angle you wish to have his face. The distance through the head from the point of the jaw (H) is about one half the length of the head. Then draw the line of the under jawbone, continuing it to the chin groove. Draw a line from (H) to meet the breast back of (F).

"In drawing the forelegs, begin at the elbow (K), which is just ahead of the front part of the withers, and draw down to the fetlock joint (L). Next, indicate the front part of the leg, drawing down to a point near (L). Halfway between the elbow and the bottom of the square is the knee joint, and halfway between the knee and the ground is the top of the fetlock joint, which you then indicate. Draw a line sloping from this point to form the pastern bone, and continue it down the hoof.

"The hind leg is longer than the foreleg. It is one head from the ground to the point of the hock (O). Sketch the lines from (M) and (N) to the hock joint which operates in the opposite way from the knee joint of the foreleg, and then on to the fetlock joint in the same manner as the front leg.

"When the framework is constructed you proceed to build the conformation, arching the neck for the crest and curving down slightly into the withers. Cut in under the jaw, rounding that line into the side of the face. Model the nose, mouth, and chin with great care. Locate the top of the eye about one third the distance down the head. Sketch the eye full and round.

"A horse's ears are seldom still. They may be lying back, tilted forward, or alert; maybe one is back and the other is up. They are very expressive of the animal's interest and mood, and are therefore important to your drawing. Continue the modeling of the legs, giving attention to the joints and hoofs. Study the skeleton of the animal for information on the portions where the bony substance is close to the surface. When you have followed this formula a few times, it will appear simple and fascinating, and you will proceed in a knowing way."

Albert T. Reid
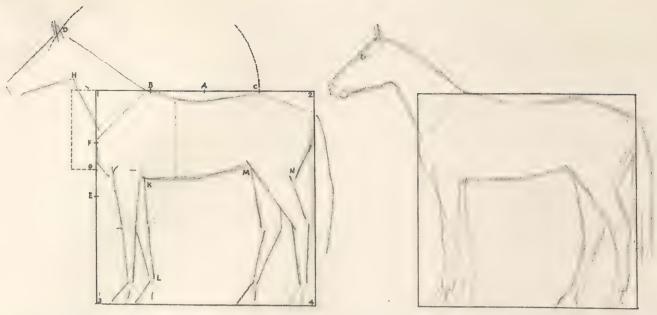
FIGURE 64. Following the instructions given by Mr. Reid in the accompanying text, lay out the horse on a sheet of drawing paper. If the student repeats this part of the lesson many times, committing it to memory, before proceeding with the next stage, his progress will be hastened.

FIGURE 65. At this stage of the drawing, a few details are added. Mr. Reid gives first attention to the legs and hoofs of the animal. This is where the bony structure is most pronounced and the anatomy of the animal must be drawn correctly to avoid the appearance of poor draftsmanship.
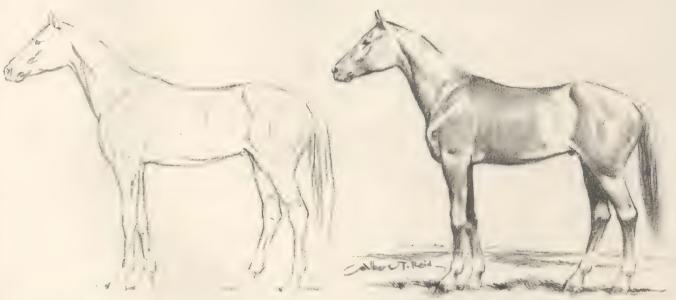
FIGURE 66. The head is developed and the muscles in the neck and hindquarters are indicated. It is evident that Mr. Reid has continued work on the legs because the joints at the knees, and short lines defining the sinews, show that he considers these parts important to the drawing. Note where he places his accents, and observe the few lines he uses to indicate the tail.

FIGURE 67. Tone is used to model the muscles and show the shadows. Note the high lights used to emphasize the knee joints, the fetlocks, and the declivity of the side of the animal just forward of the large pelvic bone. Modeling on the head is sharply indicated, and high lights also help form the shape of the neck and the sloping shoulder.

Horses in Action by Howard Brodie

MR. BRODIE, sports cartoonist, with his dry brush sketches moments in the career of a racing horse. To assure the maximum effectiveness, the areas of shadow are determined with care from the viewpoint of design and are spotted to suggest every necessary anatomical detail. Note how the darks form the structure of the horses' legs.
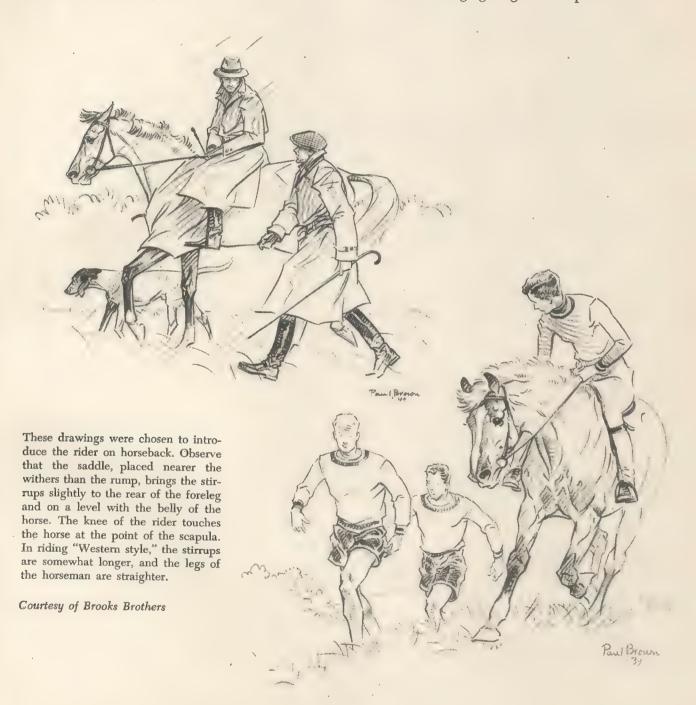
Courtesy of The San Francisco Chronicle
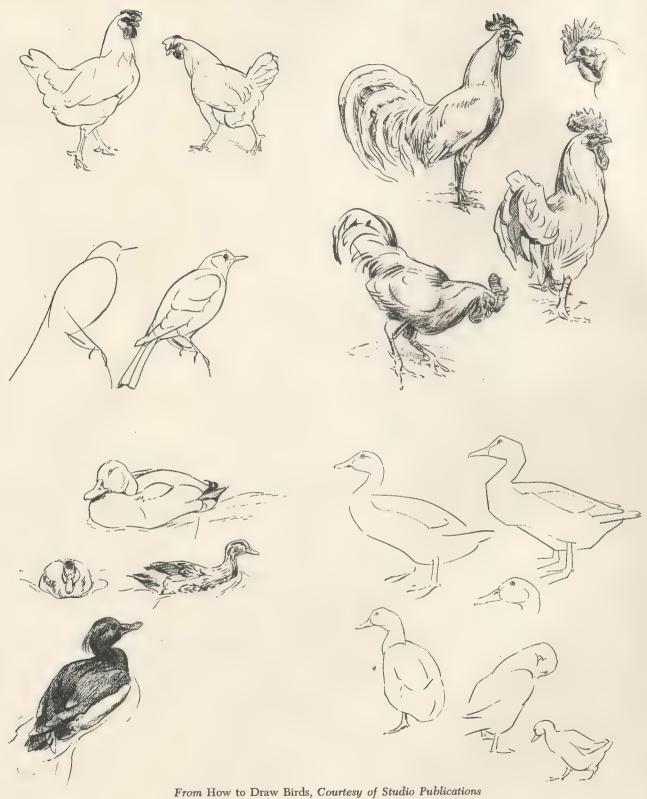
Drawing the Horse for Advertising Illustration

by Paul Brown

ARTISTS WHO gain reputations as specialists are commissioned frequently to apply their talents in a variety of fields where their specialty is a prominent part of the picture. Paul Brown, well known for his drawings of horses, shows a firm line in his treatment of these subjects for Brooks Brothers, clothiers. Using a pencil, the artist avoided smudging to give a crisper effect.

These drawings were chosen to introduce the rider on horseback. Observe that the saddle, placed nearer the withers than the rump, brings the stirrups slightly to the rear of the foreleg and on a level with the belly of the horse. The knee of the rider touches the horse at the point of the scapula. In riding "Western style," the stirrups are somewhat longer, and the legs of the horseman are straighter.

Courtesy of Brooks Brothers

Birds, Chickens, Ducks
by Raymond Sheppard

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Paul Bransom

BEFORE STARTING an illustration, Mr. Bransom makes several small, rough sketches of the subject. Determining the one best arrangement, he considers the most difficult phase of his work, as there are many ways to compose animals in action. After a selection has been made, he enlarges the sketch by the old-fashioned method of drawing squares over its surface, and an equal number of larger squares on the finished drawing. "As I work entirely in charcoal," he says, "I use charcoal lines for my large squares, which are easily disposed of (either erased or rubbed into the picture) after the main structural points and areas are located on the large squares to correspond with their place on the small.

"I use plenty of charcoal, rubbing on the tones with the fingers, and I also use my fingers and a piece of kneaded rubber to modify the tones of light and dark." Using the fingers helps give a glossy appearance to the animal's coat.

As this type of drawing is easily injured by rubbing, it must be fixed when completed, using a mixture of wood alcohol and white shellac. If the picture is to be shown in color, Mr. Bransom washes clear water color over the "fixed" black-and-white drawing, which results in interesting effects. If a pure, strong color effect is required, he uses pastels and works with them as though they were colored charcoal.

Mr. Bransom's drawings give sufficient evidence of his careful study of animals and their anatomy. "Informative drawings result from study of nature," he says, "which gives what photographs fail to provide."

TURKEYS BY PAUL BRANSOM

These studies show the way Mr. Bransom uses his charcoal to obtain a variety of effects. The smudged areas, which produce a soft gradation of tone, were worked by his fingers. Sometimes the artist re-establishes the line technique over the tones.

ILLUSTRATION FOR A STORY BY PAUL BRANSOM

Above is a fine example of Mr. Bransom's work which shows the importance of design in arranging the elements of an illustration. Many small sketches with varying layouts are made from which Mr. Bransom selects the one in which the subject is most effectively portrayed.
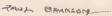
Courtesy of Liberty Magazine

Tiger sketched from life

PAUL BRANSOM

A water-color wash of yellow was added to the charcoal sketch, which gave life to the original and created a tone in the reproduction.

The pointed face and the triangular eyes of the lion, together with his heavy mane, mark the chief differences of this animal from the tiger.

SKETCHES by PAUL BRANSOM

Morgan Dennis

WHEN ASKED about his method of working, he said, "I develop my drawings on tracing paper, first establishing the pose in some plan using perspective. Next, I sketch the characteristics of the particular breed as well as possible, seeking information if I am not familiar with the breed. I establish a scheme of light and shade, and spot my black accents, working for the nuances of expression. After all this preliminary work is done, I transfer the sketch to my drawing paper and proceed, concerning myself mainly with the technique and handling of the particular medium I've chosen for the finished job."

Mr. Dennis, who has made an enviable reputation as the "Scottie" man, tries vainly to convince art editors that he also draws blondes.

Lines indicating the perspective desired are the first to be drawn.

The dog is developed in bold strokes, using charcoal or crayon.
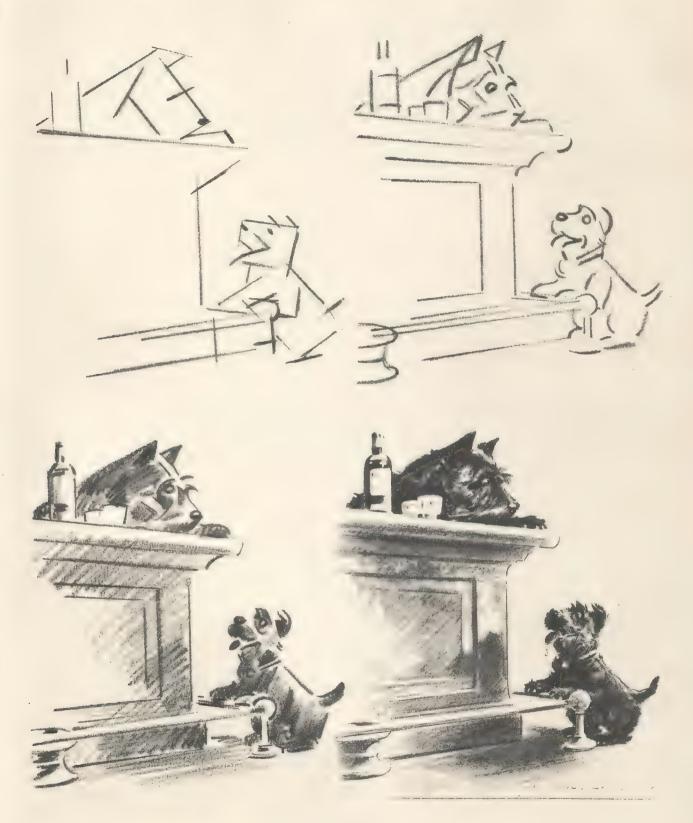
Spotting of tones and accents follows.

Mr. Dennis shows in four stages how he develops an illustration.

Morgan Dennis

Clare Turlay Newberry
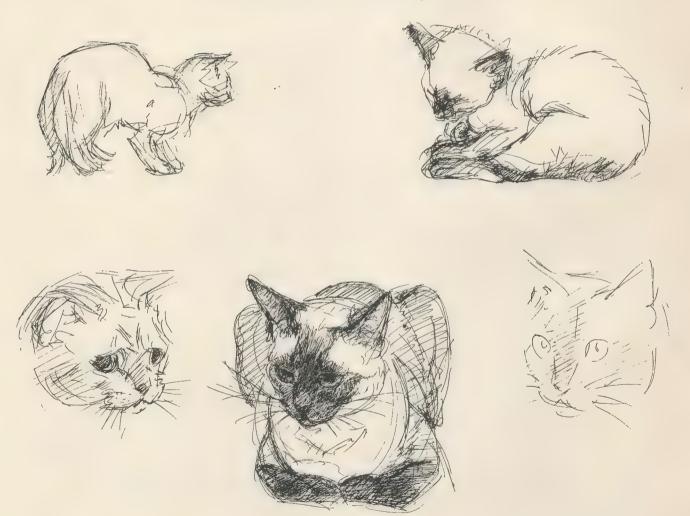
CLARE NEWBERRY draws rapidly, frequently finishing one of her charming sketches of cats in two or three minutes. Catching the action demands the ability to work fast. She uses pen and ink and a broad graphite stick for her black-and-white work, and water color as well. When asked what study she had given to the anatomy of cats, she replied, "None," but whether or not she studied the anatomical structure of the animal objectively, her drawings indicate a thorough knowledge of what goes on under the fluffy ball of fur.

A kitten with a broad, flat face romps about Clare Newberry's apartment, and her notebook is filled with sketches of heads, sleeping cats, and playful cats, all differing in pose and expression.

SKETCHED WITH A PEN FROM LIFE

These studies were taken from Miss Newberry's sketchbook

From Drawing a Cat, *$1.00*
Courtesy of Studio Publications, Inc.

Clare Turlay Newberry

These sketches were made with crayon and pencil and indicate how simple lines bounding broad areas of tone create the effect of a soft, furry coat.

From Drawing a Cat, $1.00
Courtesy of Studio Publications, Inc.

Harold Flucke

MR. FLUCKE makes individual studies of the various animals he intends to use in an illustration, then composes them, using tracing paper, to make an assembly of the elements, before transferring them to the drawing board for the finished work. Expression is emphasized in his drawings because he uses his animals to put across an idea, frequently in the interest of an advertiser.

One of the many early studies of the bears.

This tracing measured 10½ by 7½ inches, the full size of the drawing.

Courtesy of the Chrysler Corporation

The finished drawing as it was reproduced in the advertisement.

Harold Flucke

This tracing-paper study was 11 by 7½ inches.

AN OUTSTANDING characteristic of Mr. Flucke's work is his fine sense of design, which in these drawings is expressed by his arrangement of darks and lights. Observe how the white wing of the nearest goose is silhouetted against both the black shadow under the wing and the middle value on the cloud behind. The interest created by the variation in size of the three dark wings on the left side of the drawing is in itself a lesson in harmony of repeated motifs. The movement of the clouds, paralleling the direction of the flight, brings additional emphasis to this diagonal line that dominates the drawing.

Courtesy of the Chrysler Corporation

Magazine and Book Illustration

ONLY A CASUAL thumbing of the pages of the popular fiction magazines of today is needed to convince a person that illustrations for their stories are planned primarily to interest the reader in the yarn. They dominate the pages on which the tales begin, and the variety of layouts used for these opening pages undoubtedly taxes the ingenuity of the publisher's art staff.

Differing from book illustration, which follows a more conservative plan, the subjects selected for magazine pages fall roughly into two chief classifications — love scenes and episodes of intensely dramatic action. They must compete for reader interest with the striking illustrations used by national advertisers, and many of the popular magazines employ top-ranking artists for these important assignments and reproduce their work in full color.

The majority of magazines today have a page size larger than the forerunners of this medium of publication fifty years ago. Instead of confining the illustrations to the limits of the page defined by the type measurements, which produced a bookish appearance, illustrations in today's periodicals have a display quality and frequently "bleed" off the page. To "bleed" is to observe no margins within the page limits for the printed matter. Tones of color often fade into the type areas to effect unity, and the entire page is studied as a single design in which the title of the story also plays an important part.

American illustration has a brilliant heritage. Illustration as distinct from painting may need explanation. A man who illustrates is one who seizes the idea of an author and gives to the observer in a few masterly strokes or lines the very type of human being in the author's mind. The names of Edwin A. Abbey, Charles S. Reinhart, Howard Pyle, A. B. Frost, Frederic Remington, Will H. Low, Robert Blum, F. S. Church, W. T. Smedley, Willard L. Metcalf, T. de Thulstrup, Charles Dana Gibson, and Rufus F. Zogbaum represent a standard all students should try to attain, and their work all aspirants in this profession should study, if they are fortunate enough to acquire or examine copies of *Scribner's, Harper's,* and *Century* magazines of a half century ago. Bound volumes of many of these may be found in the libraries — records of a day when America's greatest artists were illustrators.

Students and reporters of intimate detail, these men created the spirit of each incident they pictured and never gave the impression that a model was employed, behind which some adequate setting was devised. One cannot look through the books illustrated by Mr. Abbey, for instance — his old English ballads, his Shakespeare, his *She Stoops to Conquer* — without realizing what an amount of time he must have given to searching out details. His costumes, his architecture, his interior decoration, utensils, and furniture, necessary for the proper setting of the period in which the character lived, were determined only after limitless investigation. It is said that frequently he spent for costumes all the money his publishers paid him for his drawings. This may not sound like good business to the modern student, but the old fabrics and antiques Mr. Abbey collected found many uses.

These traditions have been preserved and passed on to a new generation of illustrators. Prominent in the perpetuation of these high standards is Harvey Dunn, a pupil of Howard Pyle, and foremost as a painter of American spirit. Born in the Dakota Territory, he depicts the ruggedness of pioneer life, and, regardless of the subject of his canvas, one feels the freshness and the independent viewpoint of his characters.

He states that the purpose of illustration is to give a glimpse of the locale and the people in their environment. The illustrator must set the stage for the entrance of the story into the consciousness of the reader. Also, he must show the time of day,

"In Search of an Eldorado." Illustration for *The Saturday Evening Post*, painted by Harvey Dunn.
Reproduced by permission of The Saturday Evening Post, *copyright, The Curtis Publishing Co.*

the season of the year, and the period in history, if the story is not of modern times. The author describes certain material, such as the wagon, the cattle, the woman in mourning and her baby, and the grotesque, silent type of man. With this material the illustrator must produce within a given area a unified whole, presenting not only the objects mentioned in the story, but also a definite mood which is coincident with the story and which gives it life and meaning.

In selecting the incident to depict, Mr. Dunn says that he makes no effort to illustrate some portion of the story which the author has described well in detail, but rather he seeks some action to

which the author has made but little reference but where the elements of the story can be assembled and introduced to the reader in the manner mentioned above.

Many preliminary pencil sketches are necessary sometimes before the particular composition is determined, but when this bridge has been crossed, Mr. Dunn says that laying it out on canvas is a simple job. "One starts on a light-colored canvas," he says, "and the first thing to do is to establish the darker tones of the design which create the basic pattern of the picture. Color values and contrasts are next to be considered so that right from the start the 'general statement' is registered, and

the development of the design in color and tone spreads over the canvas like creeping jinny over an entire field."
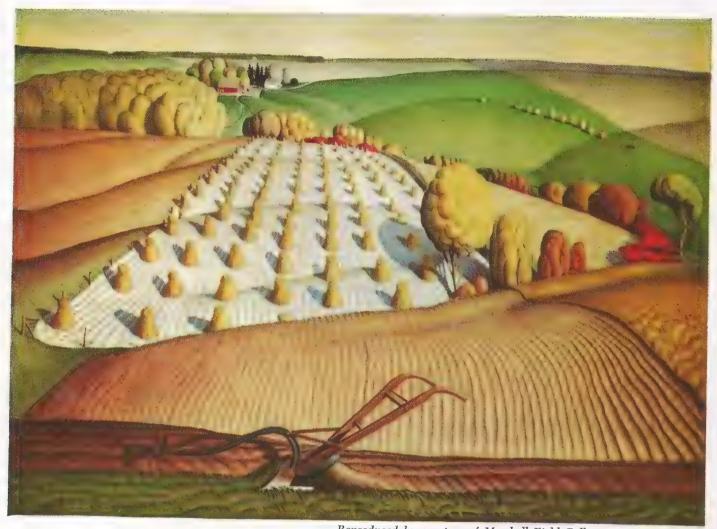
The elements within the picture are not worked out separately but are developed all at the same time so that all of them may be kept in control and made to help emphasize the chief feature or particular purpose of the picture. In criticizing the work of a student, he once said, "Let nothing detract from the importance of the head. Keep that the most interesting. Work on the clothing so that the head will be interesting."

Dean Cornwell and Mario Cooper, both students of Harvey Dunn, have continued in the best traditions of American illustration. In a series of paintings made by Mr. Cornwell for the American Medical Association illustrating epochal events in the history of medicine, the definiteness of every detail is the result of a search for information on every object, costume, and architectural feature. One of these paintings is reproduced on page 256, and the preliminary studies and compositional sketches for it appear on accompanying pages. These sketches are in themselves a lesson in painstaking research and faithful application of all of the painter's energies to produce a true story of the event. Work by Mr. Cooper, shown on page 245, is also the result of careful investigation.

The illustration, below, by Harvey Dunn for a story about oyster pirates of the Chesapeake, which appeared in *The American Magazine,* is reproduced from a full-color oil painting. To the left, a sketch by Mr. Dunn, one of many he made to clarify the picture in his mind. He checked with the Coast Guard as to the type of boat such pirates would use, and then went directly to work on the large canvas. A detail selection from the original oil painting is reproduced in color on the opposite page, to illustrate Mr. Dunn's technique.

Grant Wood

GRANT WOOD's paintings are distinctive for their decorative quality. Forms are symbolized and color is placed for its value to the design. The use of red and green as complementaries is limited and, where used, leads the eye of the observer to the focal point of the picture—the edge of the hill in the middle distance.

At the left, a detail from the Harvey Dunn painting reproduced in its entirety on the facing page.
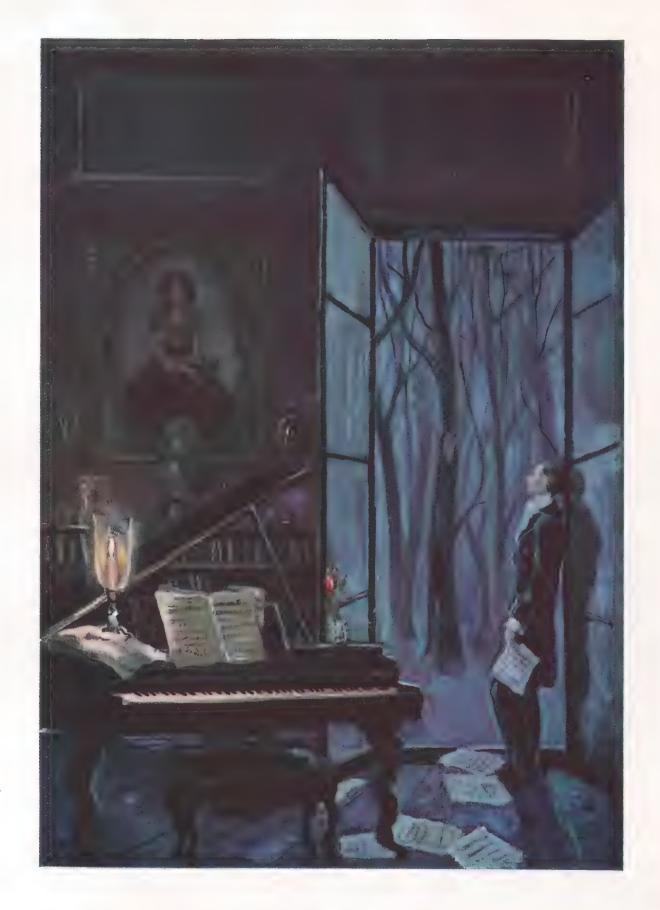
Copyright, E. B., Inc. Plates through courtesy of Maxwell House Coffee, from the American Scene Series.

Doris Lee

REALISM IS the outstanding quality of Doris Lee's painting, "Arbor Day," from the Encyclopaedia Britannica Collection of Contemporary American Painting. The predominant coloring is harmonized because the same quality of yellow used in the school building appears in the green of the grass and trees. It is a scheme based more on analogous colors than on complementaries. A portion of the painting has been omitted because of space limitations.

Bernard Lamotte

A BLUISH-PURPLE background provides the opportunity to accent yellow candlelight, and Bernard Lamotte creates a striking example of a complementary scheme in his painting reproduced on the opposite page through the courtesy of The Capehart Division, Farnsworth Television & Radio Corporation. The dress in the portrait carries the red-purple tint on the wall in a slightly increased intensity.

Everett Henry

IN Everett Henry's painting made for Frankfort Distillers, Inc., the red used on the label of the bottle, on the palette, the book on the lower shelf of the cabinet, and on the article to the extreme left is the complement to the green used on the cabinet. The painting on the easel carries both colors in reduced intensity. This idea of repeating the same color combination in a higher or lower key as a secondary interest in a painting is used frequently by painters who plan their pictures carefully. Advertising Agency: Young & Rubicam, Inc.

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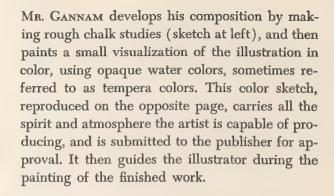
John Atherton

MR. ATHERTON combines orange and brown with a mauve sky
to form a complementary scheme. Arrangements where the color
range is simplified are usually unified in effect and can be com-
prehended by an observer without difficulty—an important factor
in painting advertisements. This is a good example of one color
family dominating the picture. Pictures seem to be well organ-
ized when the general effect suggests a single color family.
Against this unified background a complementary color is most
effective. Courtesy of Continental Distilling Corporation.

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John Gannam's sketch in tempera for the painting reproduced in black and white on the facing page.

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John Gannam

MR. GANNAM develops his composition by making rough chalk studies (sketch at left), and then paints a small visualization of the illustration in color, using opaque water colors, sometimes referred to as tempera colors. This color sketch, reproduced on the opposite page, carries all the spirit and atmosphere the artist is capable of producing, and is submitted to the publisher for approval. It then guides the illustrator during the painting of the finished work.

The finished illustration, here reproduced in black and white, was made for *Cosmopolitan* and awarded first prize in the exhibition of Contemporary American Illustration by a jury composed of fifteen magazine editors.

Courtesy of Cosmopolitan Magazine

John Gannam

(continued)

AFTER Mr. Gannam made the rough sketch to the right, his composition underwent many changes. In his first sketch, the chair in the foreground is shown at the left, in the second sketch, below, he places it on the right side, and in the final painting, shown on the adjoining page, even the figures change places. Sketches are necessary stages in the development of any picture; through them the artist arrives at the most successful solution of his problem.

The sketch to the left was made in color with opaque water colors. The dress was painted a pink, the wall a bluish green. In the final painting, the dress is white, figured with small rosebuds.

Reproduced from a water color painting by John Gannam through the courtesy of *Good Housekeeping Magazine.*

Arthur William Brown's Method

Attaining these standards in a different way, Arthur William Brown constructs his groups in the following manner:

He first decides which situation in the story is best to illustrate, and then tries to visualize the characters — how they might live, and how to make them real to the reader. The research for backgrounds and accessories comes next. The situation might be placed in the Stork Club, a bomb shelter in Malta, or a hill-billy dance in the Ozarks. An illustrator never knows what to expect, and it is not advisable to become a specialist in any particular kind of situation or type of story.

The young illustrator should begin as early as possible to accumulate a file of photographic information from various sources, and arrange them in some order so that the subject matter can be readily found. Alphabetical arrangement proves practicable, and subjects may be subdivided, each subdivision also following alphabetical order. For instance, Animals might be a general heading under which alligators, anteaters, bears, bison, camels, cats, etc., may be filed. Under the general heading of Architecture, the material might be subdivided under the various styles or countries. Sears Roebuck or Montgomery Ward catalogues are very handy, and *Look, Life,* and all other magazines featuring photographs are full of good clipping material.

According to Mr. Brown, after the material is selected, he starts making arrangements, as compositional sketches, trying to approach the problem from some original angle that will attract the reader. These sketches are made on tracing paper over which another piece of tracing paper is laid so that the first sketch may be simplified and improved. Mr. Brown states that he frequently makes twenty or twenty-five different sketches at this stage before determining the one to develop as the finished work. He considers this the important phase of the job, for it requires real effort to avoid repeating an arrangement used before.
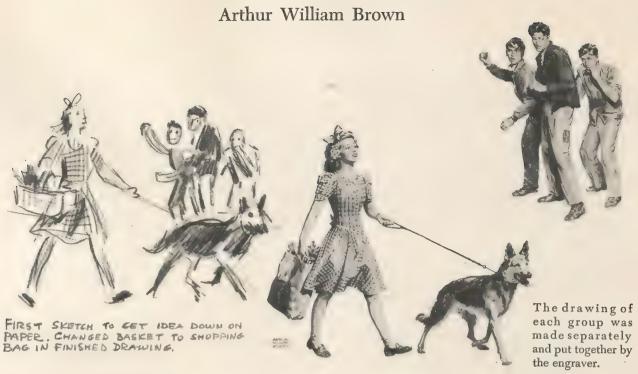
"The next step is like casting a play," he says. He searches for models who fit the types described in the story. Illustrators keep files of photographs of different types of men and women — character types, and those who are convincing when cast into a certain part. The models selected are engaged and the situation they are to depict is read to them, the mood is explained, and they are shown the sketch. Even the lines they are supposed to speak are given to them. They are rehearsed while Mr. Brown watches them from different viewpoints. When he believes that the grouping, the action, and the expressions are telling the story, he photographs them. Many exposures are made, in the hope that one will stand out as best. Sometimes he takes a figure from one photograph and a head from another to capture the best pose and expression that tell the story.

From this arrangement, Mr. Brown makes his drawing, and the natural effects he obtains justify the long period of preliminary work he endures at the start of each assignment.

Al Parker describes his method in an interesting way. Speaking of the illustration he made for the opening installment of *Dragonwyck,* a costume story by Anya Seton, which ran serially in the *Ladies Home Journal* before it was filmed, he says, "Most readers avoid a story dated by costumes, which is a shame. I should have had a field day illustrating this luscious yarn. However, I chose a bedroom scene where the heroine was sans costume. This happened to work in nicely with the publisher's desire for a 'come-on' picture to get the reader interested to start the serial. In later installments I did paint a bit of costume — the author had the reader too engrossed by that time to stop."

Concerning his method of working, Mr. Parker continues, "If the model can hold the pose and act the character well, I paint directly from her. If not, I photograph her and use the print as the model. I prefer the good old-fashioned way of painting from life. My method of starting a job varies from time to time, depending on the type of story and the mood to be expressed. With *Dragonwyck,* I made an accurate tracing, draping an actual nightgown into the desired design. After every item was placed correctly, I transferred it to the drawing paper and proceeded with the water color. The paper supplied all of the white areas. The lace tablecloth was an afterthought. I found the picture, in all its simplicity, needed a 'busy' corner."

Arthur William Brown

FIRST SKETCH TO GET IDEA DOWN ON
PAPER. CHANGED BASKET TO SHOPPING
BAG IN FINISHED DRAWING.

The drawing of
each group was
made separately
and put together by
the engraver.

Courtesy of Lambert Pharmacal Company

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Mario Cooper

**SKETCH
1**

Mr. Cooper visualizes the scene and composes its setting, giving attention to the eye level, vanishing points, and the perspective of the room, into which setting he places the figures.

**SKETCH
2**

In a further study of the grouping, the head of the chief character is tossed backward, pictures on the left-hand wall are introduced, and diagonal lines in the foreground appear for the first time. The action is intensified in this sketch.

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Mario Cooper

Placing a piece of tracing paper over the pencil sketch he has selected for his composition, Mr. Cooper then washes black water color over the surface, defining roughly his pattern of light and shade. This is an important step because it permits him to work directly for the effect he desires. In the final drawing the small pistol increases in size to a .45-caliber revolver. The halation of light along the edge of the chief figure on the shadow side is an effective idea.

THE FINISHED ILLUSTRATION

Courtesy of Collier's, The National Weekly

Percy Leason

"THE FUNCTION of the illustrator is to illustrate," says Mr. Leason, "to help the author to make the story as vivid as possible for the reader. Even though I may not like a story, I make myself the slave of the author without reservation. In painting subjects of my own choosing, I make my own decisions, but in illustration I cheerfully make any alterations that better fit the author's conception.

"There was no question of liking the story of 'The Surrender at Corregidor.' It was fine writing by Royal Arch Gunnison, who, while a prisoner of the Japs, had witnessed the dreadful march of the heroic American and Filipino survivors. It is difficult to imagine a story that would have made it easier for the illustrator to forget himself and feel the situation deeply.

"I met Mr. Gunnison and he gave me details not mentioned in his story. There followed the usual research — types of American, Filipino, and Jap soldiers, and their bearing in similar situations. Then I began the illustration. The medium of pen and ink was suggested by the art director of *Collier's*."

Mr. Leason states that he sketched the entire scene directly on a piece of Bristol board, grouping the figures as shown in the pencil drawing at the top of the opposite page. "Chief attention was given to character and gesture," he continues, "and from now on, the actor half in the illustrator's make-up took command and the artist half merely recorded the decisions. An attempt was made to live each situation in the imagination — how each individual would behave in that particular situation.

"While the pencil work was still flexible, a somewhat nervous start was made with the pen on the two

American soldiers and the Jap, shown in the small reproduction. As the ink began to flow more smoothly, and confidence developed, the refining of character and gesture became again the most important consideration. In using the pen I thought in terms of small patches of tone and seldom of single lines, except where it was impossible to do without them. This approach helped to suggest the rather glaring sunlight mentioned by Mr. Gunnison.

"When the whole drawing had been worked over with the pen, as in the small illustration, the

Mr. Leason experiments with his pen strokes.

Illustration for "The Surrender at Corregidor" drawn by Percy Leason. *Reproduced by the courtesy of* Collier's, The National Weekly.

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pencil was erased and the general effect reviewed. Tones were darkened where necessary, accents heightened, and the same business of refining characters and gestures was resumed."

One of the most significant remarks Mr. Leason makes in his foregoing statement concerns the careful preparation of his drawing in a pencil stage, where he was able to direct his attention to the characterization of the figures, which shows the handiwork of a great draftsman.

W. T. Benda

WITH CHARCOAL as his medium, Mr. Benda first blocks out his subject, determining his composition in general outlines. He then introduces tone because charcoal is essentially a tone medium, not a line medium, and he proceeds to develop his drawing with chief consideration toward an interesting balance of light and shade. The three stages shown on this page demonstrate his method of working. Mr. Benda's highly developed decorative sense is clearly evident in the reproduction of the finished drawing on the opposite page. Sharp dark accents in the folds of the fabrics give life to the work and contrast pleasingly with the soft shadows which fall on the arms and face. Contrast in technique is indicated by the manner the background is roughed in as against the smooth surfaces on the figure.

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W. T. Benda

Dean Cornwell Paints

THE DAWN OF ABDOMINAL SURGERY

The following pages outline in detail the evolution of one specific painting, from the artist's original conception, through his early studies and sketches, to the finished rendering. The steps described are the method of one artist, but the evolution is typical of all illustrations, whether covered in fewer, or more, or different stages.

Dean Cornwell's painting was commissioned for the series "Pioneers of American Medicine" by the American Medical Association and is reproduced by courtesy of Wyeth, Inc.

Dr. Ephraim McDowell, a young surgeon trained at Edinburgh, and in practice in Danville, Kentucky, performed the first ovariotomy on Christmas Day, 1809, in a second-floor room of his home. The patient, Mrs. Jane Todd Crawford, a resident of Greenville, sixty-five miles distant, had been examined by local physicians, who had diagnosed a pregnancy. Dr. McDowell diagnosed the condition as ovarian tumor, and with the consent of the woman and her husband successfully performed the operation.

Mr. Cornwell, commissioned to re-create the event on canvas for the American Medical Association, went to Danville and, for the purpose of getting the proper background, spent a full day sketching in the very room in the McDowell home in which the operation was performed. He also studied the statue of McDowell presented by the state of Kentucky to the Capitol Building in Wash-

ington, D. C., as one of the sources for the surgeon's portrait. He then consulted the Museum of the City of New York for information concerning the costumes of the period, not omitting any detail of apparel or objects of household use. With this information collected, he went to work.

From this statue of Dr. McDowell, in the Capitol Building, Washington, D. C., Mr. Cornwell obtained a likeness of the surgeon.

MR. CORNWELL'S FIRST SKETCH
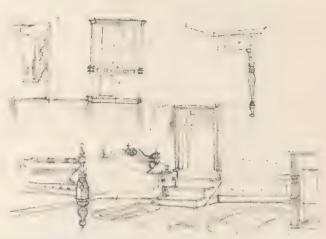
At the left is shown the first visualization of the event, sketched on a piece of yellow paper with a pen and black ink. A wash of diluted ink creates the mass of tone. The sketch is reproduced in the actual size of the original.

Drawings of actual room in which Dr. McDowell performed the 1809
operation. The room was restored by Daughters of the Confederacy.
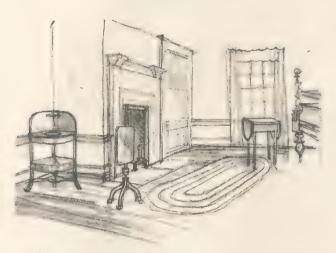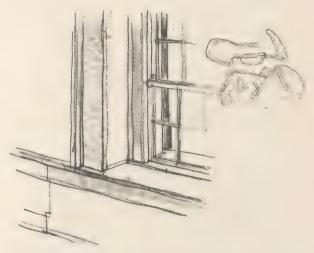
These drawings emphasize Mr. Cornwell's method
of recording detail
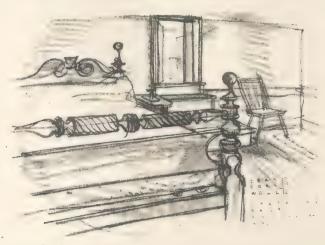
A sharp, clear line defines the construction of the furniture
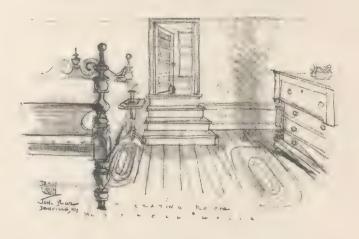
Each piece of architecture is noted in its relation to others

In the upper right are Dr. McDowell's saddle-bags
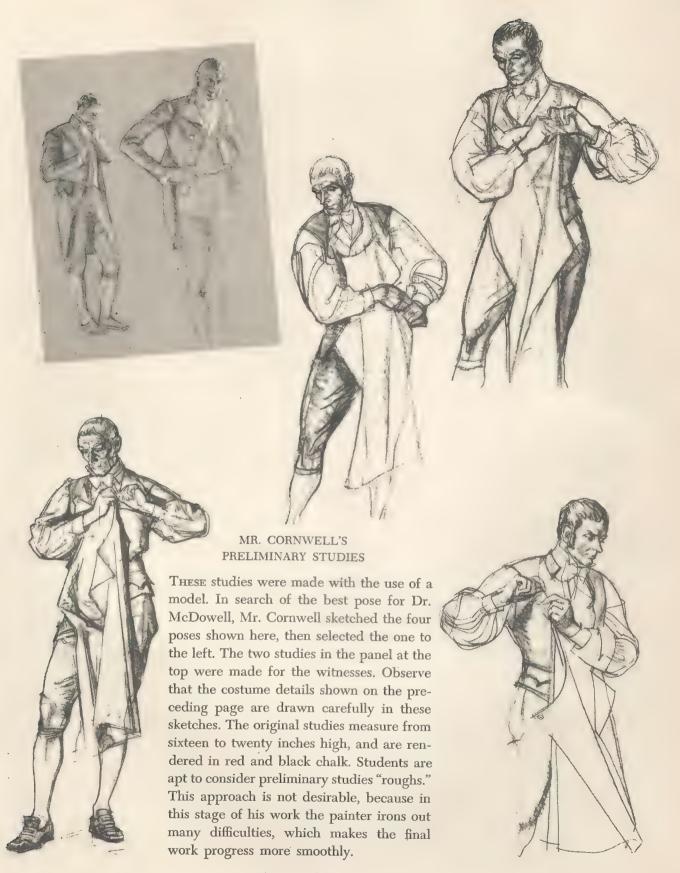
Details of the bedposts and rails are given special attention

Another view of the short door, the bedstead, and side table

These sketches were made in the Museum of the City of New York from costumes of the period. Historical paintings require infinite pains to search out every possible source of information. The painter is making statements of fact, and the authenticity of his work depends on the authorities he accepts. The coat and waistcoat in lower left were sketched in water color; the balance was made with pencil.

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MR. CORNWELL'S
PRELIMINARY STUDIES

THESE studies were made with the use of a model. In search of the best pose for Dr. McDowell, Mr. Cornwell sketched the four poses shown here, then selected the one to the left. The two studies in the panel at the top were made for the witnesses. Observe that the costume details shown on the preceding page are drawn carefully in these sketches. The original studies measure from sixteen to twenty inches high, and are rendered in red and black chalk. Students are apt to consider preliminary studies "roughs." This approach is not desirable, because in this stage of his work the painter irons out many difficulties, which makes the final work progress more smoothly.

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Mr. Cornwell's Method of Working

IN THE PLANNING of the picture, Mr. Cornwell began work with certain basic ideas about the setting and the composition, which were modified somewhat as the result of further research and the suggestions of others. He states that since the "McDowell-Crawford operation" has been always referred to as the "backwoods operation," it seemed appropriate to place the scene in a log cabin. This idea was abandoned early because of the existing homestead of the surgeon where the operation actually took place. The artist also wished to avoid making a record of the harrowing details of surgery — showing the doctor engaged in the work. This permitted him to avoid showing the technique of the medical practice at that time, information which might have been difficult to verify.

He composed, as a first study, Sketch A (see facing page), which shows the doctor feeling the patient's pulse as he tries to win the consent of her husband and herself to have the operation performed. This sketch, painted in full color, was taken to Dr. Fred W. Rankin, of Lexington, Kentucky, for general criticism. Dr. Rankin's comment was that since a surgical operation was the subject of the painting, it ought to be surgical. In a compromise between the doctor's idea and his own, Mr. Cornwell painted Sketch B, which placed the patient on a table preparatory to the operation. This sketch in oils won the approval of Dr. Rankin and other notable medicos.

Since this scheme was to be the general idea, Mr. Cornwell then painted a third study, using it as a final working sketch. Certain changes for

Pencil drawing used as basis for Sketch B

Sketch A, into which Mr. Cornwell tried to inject a "frontier" atmosphere . . .   and a detail from it reproduced full size
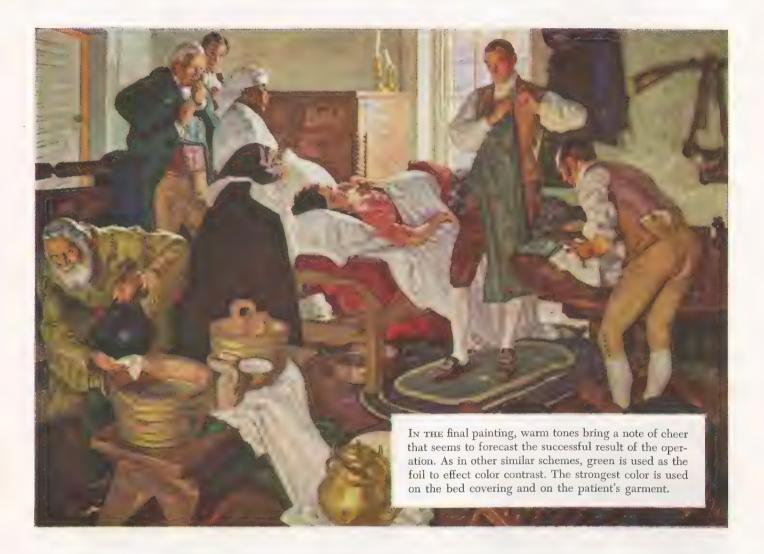
Sketch B, which utilized the architectural details of Dr. McDowell's room, and which scheme was approved

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THE DAWN OF ABDOMINAL SURGERY

IN THE final painting, warm tones bring a note of cheer that seems to forecast the successful result of the operation. As in other similar schemes, green is used as the foil to effect color contrast. The strongest color is used on the bed covering and on the patient's garment.

simplification were made: the figure behind Dr. McDowell was moved to the left background, while Mrs. Crawford's personal servant was placed nearer her mistress. The two men who were merely witnesses were further subordinated. After this final sketch was made, the buckskinned pioneer was again brought into the final painting, to stress the backwoods atmosphere. Even the Kentucky rifle and the powder horn were given additional emphasis.

The photostat of the drawing used as a basis for Sketch B is shown to illustrate a method of Mr. Cornwell, who usually tries several color schemes in oil directly on top of photostats after the surface of the paper is sprayed with shellac to stop absorption. For the finished painting, a

photostat was made of the final sketch, and the print was enlarged on to canvas by means of the "opaque reflecting machine," sometimes called a Balopticon. The outlines are traced onto the canvas in a darkened room with black indelible pencil; particularly important details are sometimes drawn with India ink.

Mr. Cornwell then washes in all general tones and colors, using a medium of oil, turpentine, and varnish. After the picture is well established in all its values and is dry, the final modeling is begun. Sometimes, when a radical change is necessary, the area is carefully scraped out with a flexible razor blade and the canvas is resurfaced with a white ground. Then a new study is projected into the area with the Balopticon.

V. Bobri

V. BOBRI uses yellow and violet-blue for the primary color combination, and red and green-blue as a secondary combination. The effect is striking and might have been confusing if the artist had not subordinated the secondary scheme to the yellow-blue violet coloring, which incidentally seems to symbolize the Chinese—if, indeed, any colors can be said to suggest this Far East atmosphere. From a full-color, full-page advertisement for Hiram Walker's Distilled London Dry Gin.

Xanti Schawinsky

A CONVENTIONAL color scheme with delicate
tones has been very ingeniously arranged by
Xanti Schawinsky for Bourjois, Inc., through
whose courtesy the illustration is reproduced.
Agency: Foote, Cone & Belding.

Robert Riggs

MR. RIGGS' painting, a portion of which is reproduced by courtesy of The Capehart Division, Farnsworth Television & Radio Corporation, suggests the enactment of some highly dramatic episode in Russian history. Dark and light in a strictly tonal sense outweigh the importance of color. The story could be told with effectiveness without color, the yellows being introduced to intensify the dramatic quality of the light, and the reds serving to bring more emphasis to the chief character by means of the design on the costume. Blues and browns comprise the pattern that forms the background.
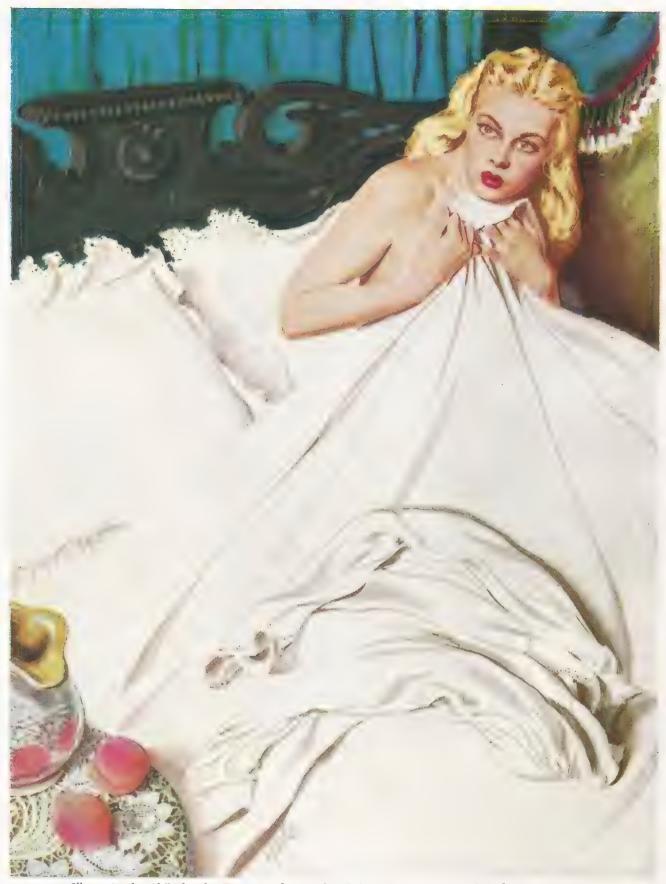
Illustration by Al Parker for *Dragonwyck*, reproduced through the courtesy of *Ladies Home Journal*.

Al Parker

MR. PARKER, whose work appears on the covers as well as on the inside pages of the magazines, works chiefly in color, although his preparatory sketches are in black and white. This illustration, which was made for the *Dragonwyck* story, is shown in three stages. At the right, the composition is indicated roughly, for which black water color was used. The illustration is then drawn carefully in pencil on tracing paper the size it will be painted, and every detail is studied. This final rendering, shown below, is transferred to the illustration board, and Mr. Parker proceeds with the finished painting, which is reproduced on the opposite page. The illustration received much merited praise during the time it was exhibited as representative of present-day handling of magazine art work.

Matt Clark

MATT CLARK obtains his striking effects usually with dry brush and ink, although the illustration shown above includes washes in gray and bluish green. The combination of ink and water color is suitable for two-color reproduction, which is practiced frequently by the publishers of the popular story magazines.

The small pencil sketch at the right indicates that Mr. Clark merely assembled the elements of his composition in a crude way before actually beginning his work on the final stage. It shows the general scheme as worked out in the finished drawing and suggests that this artist studies and rejects many other possibilities as they pass before his mind, waiting until the arrangement he thinks best crystallizes before sketching anything.

Reproduced by permission of The Saturday Evening Post

Wallace Morgan

IN A TWO-STAGE sketch, Mr. Morgan depicts a scene he watched while he was in service in World War I. It seems to be a general utility trough where the soldiers washed themselves, shaved, and brushed their teeth, while the horses were watered and French housewives did their laundry. Mr. Morgan sketches loosely, locating everything before accenting with his pencil.

Above, the rough indication of things in the sketch; below, the sketch developed.

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Above, the rough indication of things in the sketch; below, the sketch developed.
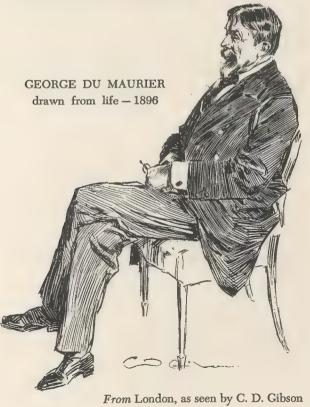
Charles Dana Gibson

"Two Strikes and the Bases Full"

Copyright, 1903, Collier's Weekly

GEORGE DU MAURIER
drawn from life — 1896

"The Eternal Question"

Copyright, 1904, Collier's Weekly

From London, as seen by C. D. Gibson

Harry Beckhoff

WHEN Mr. Beckhoff determines what material he will use for his illustration, he gives thought to the characterization and selects models to photograph in poses he visualizes as expressing the idea he desires to get across to the reader of the story. He acquires photographs of the various objects that will appear in the picture so that no detail will be represented incorrectly, and assembles all information about the subject before putting any work on the actual drawing.

Even expressions are studied and recorded in the photograph, clothing is selected, and the model poses with the objects gathered for the illustration.

The goose to the left will be drawn with little change.

In the center is a guinea hen Mr. Beckhoff found handy.

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Harry Beckhoff

AFTER HE has photographed all his models, Mr. Beckhoff works on his compositional sketch. He draws these sketches very small and with great detail. The sketch at the right is reproduced in the original size. Observe how well the character and expressions of the models are recorded in the finished work.

Reproduced by courtesy of Collier's

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Harry Beckhoff

(continued)

ALWAYS bent on getting everything authentic, Mr. Beckhoff went to the U. S. Navy to get information concerning the correct uniforms, signal flags, and proper methods of holding them. The interesting spotting of black accents and dark-gray tones makes this illustration effective.

Courtesy of Lambert Pharmacal Co.

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Illustrations for Book Advertising

MANY BOOKS, such as novels, are published without illustrations, and some picturization of the characters is needed to furnish an appeal in the advertisements prepared for the newspapers. The paper jacket wrapped around the book is frequently designed to present some illustration depicting the locale of the story or some dramatic incident in the tale. Characterization of the leading persons in the story offers good material for this kind of illustration.

Reynold Pollak, who has prepared characterizations for *Beyond Surrender* and *The Galantrys*, which appear below, describes his method in picturing these people. "The first and most important step in creating illustrations for book-advertising copy is to read the story with an open mind, alert for any details that will give a clear-cut idea of the characters or scenes described. The people must be so clear in the mind of the artist that he can draw them as though they were living models. I start a head with a rough pencil sketch showing most of the characteristic features. Then I go over this sketch in ink, giving definite outlines and shading to the portions that create the expression. It is essential to the quality of the reproduction that this bold technique be kept as simple as possible because sometimes the head is reproduced at a very small size."

Reynold Pollak

Drawing to advertise Beyond Surrender, *Courtesy of J. B. Lippincott Company*

FIRST STAGE   SECOND STAGE   THIRD STAGE

Drawing to advertise The Galantrys, *Courtesy of Little, Brown Company*

Orson Lowell
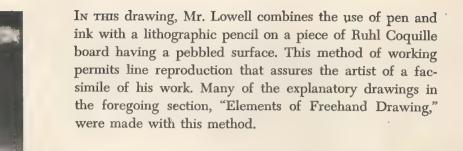
MR. LOWELL's pen-and-ink drawings have been a standard for art students for two generations. Unlike Charles Dana Gibson, Mr. Lowell "painted" with his pen, establishing a texture with his strokes suiting the material he was drawing. This change of stroke gives variety and color to the drawing. Observe the contrast between the shadow under the raft and the delicacy of the background.

"Floating mail down the Yellow River in China. The raft is made of inflated Buffalo hides."

Illustration from Our Changing World

Orson Lowell

IN THIS drawing, Mr. Lowell combines the use of pen and ink with a lithographic pencil on a piece of Ruhl Coquille board having a pebbled surface. This method of working permits line reproduction that assures the artist of a facsimile of his work. Many of the explanatory drawings in the foregoing section, "Elements of Freehand Drawing," were made with this method.

HOW MR. LOWELL MADE THIS DRAWING.

1. Rough sketch (*above*) was made in pencil to establish composition.
2. Squares were drawn across the face of the preliminary sketch.
3. The larger drawing was laid out over squares, larger but numbering the same as in the smaller sketch.
4. Pen-and-ink work was completed first, including all detail.
5. Darks, as shown in deep shadow, were registered.
6. Lastly, the lithographic pencil was used to draw in the middle tones and pull the drawing together.

Reproduced by permission of The Churchman

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Gordon Grant

Mr. Grant's marine pictures appear in oil, pen-and-ink drawings, water-color wash, and in etchings, and are the result of a life whose first interests were directed to the sea. According to one critic, "Only a man who is at home on the sea has a moral right to paint it," and this qualification was established early in Mr. Grant's life, when, en route to Scotland from San Francisco on a Glasgow wheat ship, he sailed around Cape Horn.
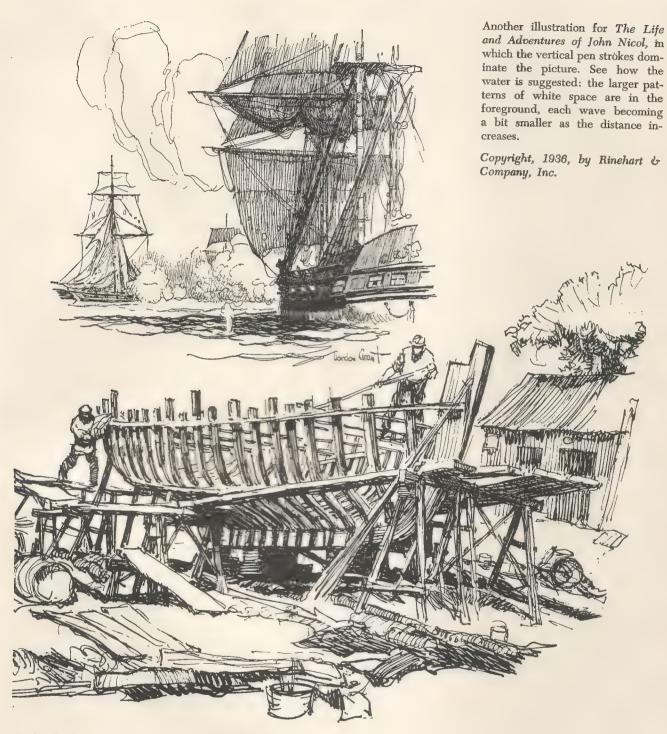
This illustration, made for *The Life and Adventures of John Nicol,* is shown in two stages—a preliminary pencil sketch, and the finished drawing in pen and ink. Mr. Grant's pen strokes follow one direction in this drawing, which gives a unified and dignified appearance to the ship. Observe how he leaves the "feather" on the crest of the wave white, and how the lines that make the shadow on the jib sails follow the same direction as the lighter portion of the sails.
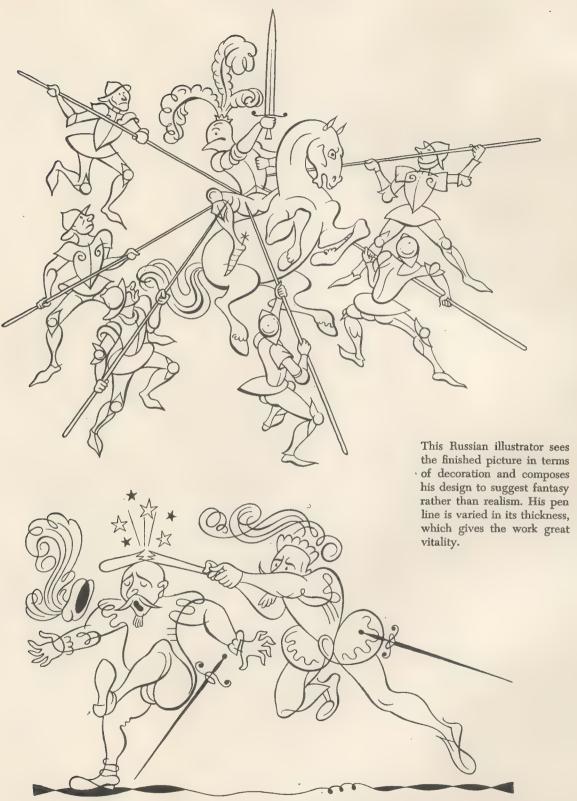
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Gordon Grant

A sketch from Mr. Grant's Brittany collection, taken from his sketchbook. The white edges of the planks in the scaffolding and along the ribs of the ship's framework relieve the complexity of lines which are necessary to indicate the amount of subject matter.

Boris Artzybasheff

This Russian illustrator sees
the finished picture in terms
of decoration and composes
his design to suggest fantasy
rather than realism. His pen
line is varied in its thickness,
which gives the work great
vitality.

*Illustrations from Droll Stories; copyright, 1939, by The
Heritage Press, and reprinted by permission of the publisher*

Boris Artzybasheff

Book Illustration

Edward C. Caswell

WHEN THE galleys of a book are submitted to Mr. Caswell to illustrate, he makes notes of situations which have impressed him, writing them down as he completes each chapter. From these notes he makes his selection, the number depending upon the extent to which the book is to be illustrated. He then visualizes the situations in small compositional sketches, using a pen because of the directness of the medium.

Following a further study of the composition in larger scale, he draws from life certain parts, such as hands and folds of garments, to attain greater authenticity. With these studies before him, he makes his finished illustration.

SKETCHES FOR *Hannah Courageous*
BY EDWARD C. CASWELL

Courtesy of Longmans, Green & Company
From Hannah Courageous, *copyright, 1939, by Laura Long*

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Art in Advertising

ADVERTISING OFFERS the artist the broadest field in which to perfect himself. It is a mistake for him to consider art for business enterprises less serious or less creditable than for other purposes, or that art is less appreciated in that field than in others. That which is called commercial art presents a challenge insofar as it requires of the artist not only a technical facility, but the viewpoint of an interpreter — one who seeks to create objectively a design which will convey an idea with dramatic force. He must have the ability to apply psychology to selling. Art for advertising is a combination of practical thinking and craftsmanship.

Merchandising is suggesting to a prospective customer that he desires or requires a given article. People are generally picture-minded, and the most successful advertisements are those wherein the idea is projected with the minimum of reading matter. The artist who can develop the ideal relationship between his technical ability and the business point of view will produce most effective expressions in art for advertisers.

Modes in merchandising change constantly. The effectiveness of each successive mode rests largely on its smartness — its particular appeal to the common mind. This appeal may be the result of some personality or event in the current scene or, perhaps, may reflect a general mental attitude, which may account for successive waves of fanciful presentations contrasting with the stark realism of photographs. From one extreme,

in which drawings are made to delight the observer's eye rather than to convince him, to the opposite, in which the design exhibits statistical proof, the sole objective of each is to sell an article or an idea. The kind of presentation is usually determined by the art director of the advertising agency preparing the client's merchandising campaign, and few artists are sufficiently versatile to appear at their best in all modes of presentation.

Once in a great while, an artist appears on the scene whose work represents those qualities of universality which lend it permanent value. Such high art as this possesses an innate loveliness which time never changes. It is elegant, and expressive of the best regardless of the period in which it appears. Like the sculptured head of Diana in

FIGURE 68

DIANA (*circa* 400 B.C.)

This elegant head ranks with the best examples of art in every period of history. It epitomizes style.

Figure 68, carved by a Greek craftsman about 400 B.C., the refinement makes the style ageless. It represents the most serious effort of the artist. Cleverness is no part of it, for, where cleverness enters, true art and the high quality of style diminish.

Fashion, on the other hand, is a transitory thing. It appeals to the restless urge for change, and certain elements in the design of an article are given emphasis for a brief period only to assume subordinate roles at a later time. Fashion stresses newness, and the innovations that achieve it seldom have qualities of lasting value. In men's fashions, the changes are less noticeable than in women's, differences being effected by colors, textures, and slight variations in pattern. But with woman, the silhouette undergoes the most conspicuous al-

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terations. Her contour widens and narrows according to her fancy. Since the day Eve wove her first girdle of leaves, woman has sought to attract the eye of man, and this "girdle line," or "waistline," has crossed her garment from her knees to her breasts, and has been dispensed with entirely on occasion.

Periods of history produced certain features in the apparel of both men and women that, when introduced into the fashions of today, seem to evoke a suggestion of the romance connected with the period. Even the shoulder pads sewed into the blouses today had their place in the fashions of fifty years ago. Their stuffed counterparts were known as epaulets and as the gigot sleeve.

To present a fashion successfully, its outstanding characteristic should be emphasized — even a slight exaggeration is preferable. This characteristic may be a flowing line which dominates all subdivisions of the pattern, or it may be a concentration of detail. The interest of an observer should be directed to this line or detail to the exclusion of other elements of interest. Methods for directing this interest vary — sometimes by means of contrast in values, sometimes by the introduction of lines serving to denote the action of the figures, and sometimes with the aid of the printed matter in the advertisement. Regardless of method, the outstanding quality the artist should seek is charm. All of his training, including his knowledge of composition and the handling of his media, will be brought into play to produce a successful drawing for merchandising purposes, but it will take the rare refinement of the gifted artist to achieve a presentation with charm.

Good advertisements are not arrived at abstractly. That is to say, the design is not planned by means of a search for something original in effect. The purpose of the advertisement is given first consideration. The class of people to whom it is to make its appeal, and the psychological factors governing the kind of appeal to be made, are the first things determined. For instance, each buyer of a new automobile is interested chiefly in the smooth-running mechanism — the car's speed and power. Secondary considerations may be the color, the texture of the upholstery, and the odd collection of gadgets that have been thought up by the designers to afford the motorist added com-

fort. To appeal to the primary interest of the buyer, the car is shown with sleek and flowing lines to suggest speed; the breadth, adorned with heavy bumpers and guards, gives the impression of sturdiness and power. These characteristics are the ones the artist must produce in his drawing.

Toilet articles, receptacles for powder, perfumes, and other aids to milady's adornment are drawn to convey feminine daintiness and grace. In the advertising of tools and machinery, the appeal is directed to suggest the infallible accuracy and consistent performance of the article. To interest the prospective buyer of insurance, the keynote is security. The means through which the particular appeal is presented most effectively is the common-sense approach to successful merchandising. The artist must understand this approach in order to do his job well.

If the artist is given the opportunity to design the advertisement in its entirety he must consider the type matter as part of his design and create the relationship between the type and the illustration that will best put across the message. The type selected must be clear and readable, and the portions displayed more prominently should be few. Emphasis is lost when too many elements in the type are featured. Each one added takes attention away from the first item of importance. The line in the lyric of *The Gondoliers*, by Gilbert and Sullivan, comes to mind: "When every one is some-bo-dee, then no one's any-bo-dee."

The advertisement should be considered as a unit competing with other units, either on the same page, or elsewhere in the magazine, or along the highway. The designer's problem is to effect unity, clarity, and decisiveness. Ornament should be used sparingly. It is introduced only to relieve the feeling of harshness which results sometimes from severe contrasts or material of extreme simplicity. It has been employed to create a simple tone, such as a border, to surround, and help to emphasize, a plainer area wherein the message is contained. A knowledge of printing and the history of printing will prove helpful to any student who wishes to design good advertising pages. He should be familiar with the effects obtained by craftsmen since the first use of movable types by Gutenberg, the kinds of type, and the appropriate use of ornament.

Speaking of ornament, Walter D. Teague, whose designs for advertisements have streamed across the past thirty years, wrote in one of the early *Advertising Art Annuals*, "If any artist feels that he should invent new ornament with which to build his design, there is no reason why he should not try. His success will depend not on the ornament which he uses, but on the designs which he builds with it — on the beauty of those recurrent contrasts or rhythms which he must compose in a new arrangement intended to give us pleasure. That is what we mean by decoration. From this definition it will be seen that decoration can never be a thing added, a superfluous or useless element: it must be wrought out of the very body of the thing decorated."

Fashion Drawing

IN A SERIES OF preliminary studies, Louis Eisele, instructor in the Fashion Art and Design School, New York City, demonstrates methods on the following pages which should prove helpful to the student of fashion drawing. Emphasis is placed on simplicity, and directing the student's attention to this characteristic, he advises that early efforts of the students be rendered in black and white, the black areas painted solid, and the white areas outlined with a single thin line. This contrast is a basic characteristic of many of the leading fashion artists today.

The smartness of clothes is embodied in the general effect they present in light and shade. The lines of the garment are formed by the folds it makes; therefore, these accents are important in showing the garment to the best advantage. Textures, such as silks, satins, rayons, etc., which reflect a higher percentage of light than cottons, woolens, and flannels, are rendered with contrasts; folds appear dark and sharply accented, and the surfaces reflecting light contrast sharply with those turned away from the light. This creates a brilliant effect. The silhouette of the entire figure, and its contours, are also important and are better emphasized when the areas of tone comprising the mass are flat and simple in treatment.

Mr. Eisele begins with the constructing of the figure, much in the same way as suggested in the foregoing section on "Drawing the Human Figure." The nude figure is sketched in lightly, to become a framework over which the clothes will drape with natural folds. Folds usually have their beginning at some extended part of the figure, such as the shoulder, elbow, hip, or knee, and sweep in a slight curve to the next point of suspension, or fall straight downward if no other object interferes. Wrinkles make a fascinating study. They radiate from a button when a strain is caused; they fall in parallel folds across the length of the sleeve, dependent on the fullness of the material, and sweep in long lines when stretched between two points of contact. The student should give careful attention to wrinkles and folds as they contribute to the naturalness of the pose and the smartness of the fashion.

As an exercise in simplifying the areas of light and shade, Mr. Eisele draws a page of men's hats. The method follows closely the lessons shown in the section on cartooning. The head is drawn and the hat is fitted to it: (1) the center line of the face is crossed by lines indicating the level of the eyes, nose, and mouth; (2) the outline of the head is sketched in; (3) the hat is fitted; (4) the light-and-shade effect is studied; (5) the areas for shading are outlined in ink; (6) the head is completed by painting in solid the areas of dark.

Drawings of fashions are made to appear on newspaper and magazine pages, consequently requiring areas of dark tone sufficient to compel the reader's attention. The drawings of Dorothy Hood, made for Lord & Taylor, are splendid examples of fashion art following this principle. Lou Chapman Forster sketches more freely and uses her accents more sparingly. Dora De Vries also draws with a thin pen line, and places her darks to accentuate the chief motif in her design.

In the drawing of men's fashions, dark tones are frequently used, as seen in the work of Robert Goodman and Ray Wilcox. The masculine touch is required. The student will find many suggestions in the following pages, with demonstrations by foremost artists in their field in progressive stages of their work.

Constructing the Fashion Figure
Louis Eisele
Head Fashion Instructor,
School of Fashion Art and Design, New York City

Clothing the Nude Figure
Louis Eisele
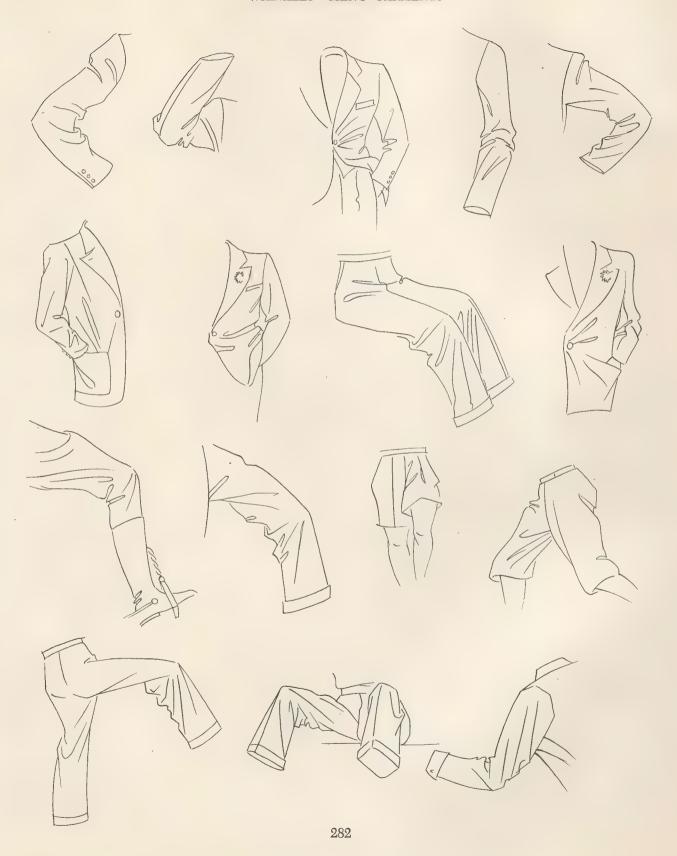
A lightly sketched nude figure with interesting action is the basis for a fashion artist's drawing.

The garment is drawn with attention to where it clings to the figure and where it falls in folds.

Louis Eisele

WRINKLES — MEN'S GARMENTS

Louis Eisele
WRINKLES — WOMEN'S GARMENTS

Dorothy Hood

Reproduced by courtesy of Lord & Taylor

The outstanding characteristic of Miss Hood's drawings is the flat shadow rendered with a simple wash. Accents are reserved for use in the featured portions of the garment. Outlines defining the white areas are placed where they accentuate the interesting contour of the figure.

This is the famous petticoat dress, a Ben Reig original designed by Omar Kiam, of soft wool, with a ruche and ruffled underskirt of bright-plaided rayon taffeta — Lord + Taylor

Dorothy Hood

Reproduced by courtesy of Lord & Taylor

Dorothy Hood
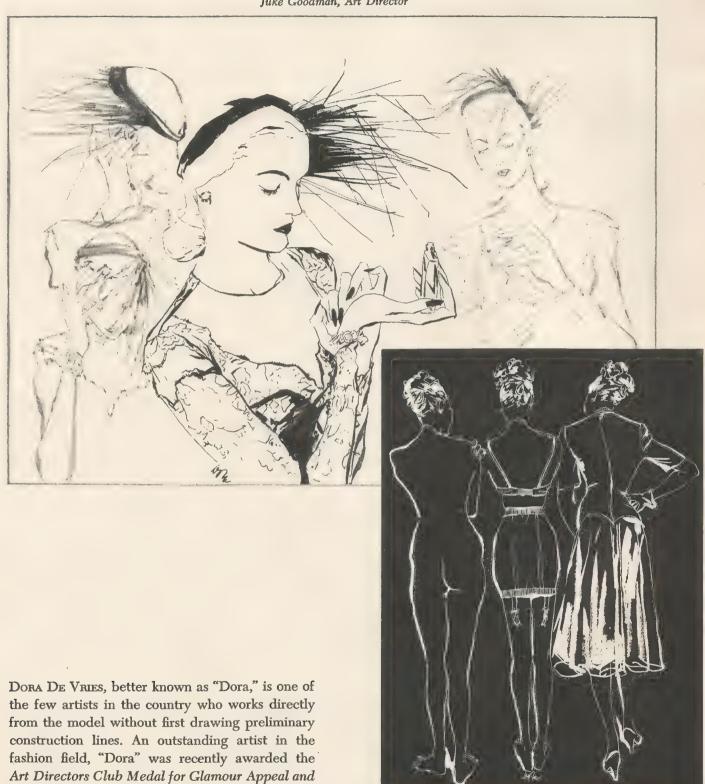
Reproduced by courtesy of Lord & Taylor

Nine times out of ten, now, the "dress-up" in your dress-up costume is your hat.

Do see our new
dinner and theatre hats —
they're enchanting.

Guess Who?

"Dora"

Reproduced by courtesy of Suzy Perfumes

"Dora"

Reproduced by courtesy of Saks Fifth Avenue,
Juke Goodman, Art Director

DORA DE VRIES, better known as "Dora," is one of the few artists in the country who works directly from the model without first drawing preliminary construction lines. An outstanding artist in the fashion field, "Dora" was recently awarded the *Art Directors Club Medal for Glamour Appeal and Style* for the above advertisement.

"Dora"

Reproduced by courtesy of Saks Fifth Avenue,
Juke Goodman, Art Director

This sketch was originally reproduced for newspaper
advertising with the figures in white outline against
a black background, as it appears on the opposite page.

René Robert Bouché

MERCHANDISING women's apparel calls for a sympathetic understanding by the fashion artist of the spirit of the mode. "The fashion sketch is neither a photographic recording nor a synthetic glamorizing of a given model," says Mr. Bouché, whose drawings for *Vogue* are well known. "Like any artistic work, it tries to be a sincere interpretation of the spirit of the subject. Its elegance derives from the way one sees the feminine charms and from the tact with which one expresses them in a minimum of lines."

Mr. Bouché considers the particular character of a line as having much to do with the success of a fashion sketch. "Spontaneity is our goal," he says, "an honest, plain drawing without artificial prettification." Varying the quality of his line between a light, thin stroke to denote smooth surfaces and a broad, firm stroke to indicate coarser textures, he works with an economy of effort to produce drawings displaying a wide variety of materials.

Wetting a piece of rough water-color paper with a sponge, he proceeds to draw directly from the model, using a pen alternately with a brush as each phase of the work calls for the use of one medium or the other.

Other methods of working include pen and ink with wash, sometimes on thin Japan paper; fountain pen on paper; pencil; pen and ink on blotting paper, with gray wash added; and pen and ink on a damp paper. Dampening the paper causes both the pen line and the brush line to spread slightly, which softens the severity of the line. Mr. Bouché's use of gray tone is governed by his sense of pattern. Extraneous details are frequently omitted from his drawings, so that the sketch quality is always preserved.

The model is groomed to the last touches.

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René Robert Bouché

1. The paper is moistened with a wet sponge.

2. Sketching directly requires tense concentration.

3. A pen is used to sketch the hat and face.

4. The figure begins to take shape.

5. He shifts to his brush for the broader lines.

6. Grays are washed in as work nears completion.

René Robert Bouché

(continued)

MR. BOUCHÉ points to the differences between the actual model and the drawing, in which, he says, the superficial appearances are ignored while the essential characteristics are accentuated. The drawing portrays the spirit of the model and tells more about the different textures and the "cut" than the photograph can.

Slenderizing the model in the drawing is a common practice of all fashion artists. This comparison shows the value of a drawing over a photograph in the portrayal of materials.

It is interesting to note that with changing trends in fashion design, the illustrator must also change his conception of the model in his drawing. In the artist's rendering, slim hips become full, wide shoulders become narrow—if the latest fashion demands it. The successful illustrator must be constantly aware and one step ahead of these new modes, so that his portrayal of the current silhouette is in keeping with accepted new designs.

René Robert Bouché

The pencil sketch on smooth paper at right presents a literal interpretation of a head; below, oil color was used to give rich black and grays; at the bottom, pen and ink were used on wet paper, which gives the pen many effects.

Sketches reprinted courtesy of Vogue.

Jacqueline E. Lindner

Reproduced by courtesy of Saks Fifth Avenue,
Juke Goodman, Art Director

LOOK OF THE NEAR FUTURE

. . . in the elegant little black dress
that blesses your figure with a slender look.

. . . in the jewelled dog collars
you clasp snugly 'round your throat.

. . . in the larger hats and turbans
that give height and importance to your dress.

The rayon crepe dress with peplum and shoulder cuffs of rayon satin. 10 to 20. 39.95. The long-sleeved beltless dress of rayon crepe. 10 to 14. 39.95. Fifth Floor Dresses. The dog collars of brilliant stones, sequins or fake pearls on bands of black rayon satin or velvet. From 7.50 to 15.00. Street Floor. The hats from the Custom Millinery, Third Floor.

Reproduced on these two pages is a double-spread drawing for Saks Fifth Avenue, along with preliminary sketches. Mrs. Lindner's method of working is to make first a rough visual layout with pen and ink. With the approval of the idea, she then makes careful pencil studies of the different articles of merchandise to be included in the drawing.

Satin

Satin

F. E. Lindner

Mad. actael

Lou Chapman Forster

Reproduced by courtesy of Macy's, New York

These drawings were made direct from the model without any preliminary pencil layout. Miss Forster calls it "scribbling," for she lets the pen sketch freely. To avoid the monotony of an even line, she bears down on the pen to create accents, and sometimes washes in a small amount of gray tone, which seems to make the black blacker and the white paper whiter.

Avoid putting patterns (prints, checks, etc.) all over the figure. It looks cheap and monotonous. Miss Forster puts in the solid blacks last.

Fell Sharp

Reproduced by courtesy of Saks Fifth Avenue,
Juke Goodman, Art Director

'The Major"

The use of the gentleman of culture
of an earlier period suggests the long
period of time the store has served
the most fastidious people.

Blanche Berkoff

Reproduced by courtesy of Antoine

The head is drawn in pencil.

The lines are inked.

A negative photograph or photostat will make the original reversed.

DAINTINESS AND charm are the prominent qualities of Miss Berkoff's work. With a superb decorative sense, she creates drawings which are equally effective when reproduced either in black lines on a white background or with white lines on a black background.

Drawings in white on black backgrounds can be accomplished in two ways. They can be drawn in white ink with a pen or with white paint and a brush, or they can be drawn in black ink and photographed. A negative print will produce the reversed effect. Miss Berkoff works both ways. In the drawing of the girl's head, the photo method was used; in that of the bride, to the left, the portions which appear against the black background were drawn in white.

Blanche Berkoff

Robert Goodman

Mr. Goodman begins a fashion drawing by massing his grouping with charcoal in a rough, compositional sketch.

He develops one figure at a time, using a pencil, confining his early efforts to outlines and details of the garment.

The second figure appears with one side of the coat and one leg showing, which is enough to define the tailoring.

The girl is added, and some of the background to give the scene its location. Light washes appear on the faces and hands.

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Robert Goodman

The dark areas are painted in with thought given to the contrasts created between the different garments.

Mr. Goodman now starts to shape up his figures with brush and ink, indicating folds and facial features and background.

More washes are applied and the lighting effect becomes more apparent. The whole drawing is developed little by little.

Weave of the garment on the center figure is drawn, neckwear is painted, and foliage is spotted along the branches of the tree.

Ray Wilcox

THE STUDENT should first acquaint himself with the mechanics of clothes— how they are made—so that he will know the correct positions of seams and buttons and the cut of the lapels. A knowledge of fashion should also include the history of costume. In drawing fashions, simplicity is important because contrast in values will give the most striking presentation of the garment. Mr. Wilcox draws his figures approximately sixteen inches high on Bainbridge illustration board, and uses a brilliant black water color which gives him a wide range of values.

At the right, progressive sketches are shown of the completed drawing above.

Courtesy of Fashion Park Clothes

Ray Wilcox

THIS FIGURE was drawn to be re-produced for a newspaper advertisement, and the work is more successful if the darks are clearly stated and the tones kept simple. Mr. Wilcox says that a fashion drawing is as good as the face and hands.

STEP 1. A pencil sketch is made direct from the model, and shadows are drawn.

·STEP 2. The solids are ar-ranged to give the cut of the garment.

STEP 3. Tone is applied, and a pencil is used to indicate the weave.

Courtesy of Finchley

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Ray Wilcox

THIS MURAL, painted by Mr. Wilcox for the Finchley Palm Beach store, is 39 feet long and 7 feet high. It was executed on canvas in oil colors. The material illustrates a fashionable period in the 1850's. In a series of three steps, Mr. Wilcox shows how he develops a group of figures as preliminary studies to be enlarged on canvas. The mural is painted in a continuous strip and mounted into position on the store walls after it is finished.

Courtesy of Finchley

STEP 1. The figures are laid out carefully in detail with a pencil.

STEP 2. The shadow areas are painted to create the light-and-shade pattern.

STEP 3. The balance of the details is indicated in grays and water color.

Sergei Givotovsky

DRAWING FASHION accessories is much like drawing anything else for advertising purposes — first the pencil sketch, then the black accents, and finally the washes of middle tone, leaving the white paper showing through in places where high lights are desired. Regardless of the detail work on the ornament, it is the dark accents that define the fashion when the reproduction is made.

Simplicity in the handling of the reflections and dark accents in glassware is the secret of its transparency. On the sled, it was the intention to make all bottles similar; there is emphasis in this repetition. The sharpest tonal contrast has been placed at the nearest corner.

The wood effects on the shoes were obtained by simple direct washes. On the shaded side, a foundation wash was laid first. The sharp outlines give a clean-cut appearance.

Reproduced by courtesy of Coty

Sergei Givotovsky

(continued)

The snakeskin shoe below was made in the same method as the bag, but the perforated shoe was drawn with ink and wash, then white paint was used to create the pattern of the perforations.

Shoes reproduced by courtesy of Bonwit Teller, Inc.

Sergei Givotovsky

The soft, suède effect on the gloves is obtained by water-color wash with the dark areas being painted in while wash is still moist. This gives a soft edge to the shadow. The stitches are painted when wash is dry.

Reproduced by courtesy of Saks Fifth Avenue

Leslie Saalburg

"OPENING NIGHT AT THE METROPOLITAN"
Preliminary sketches
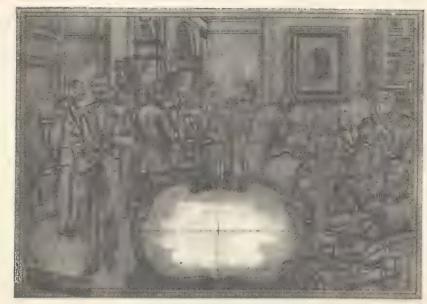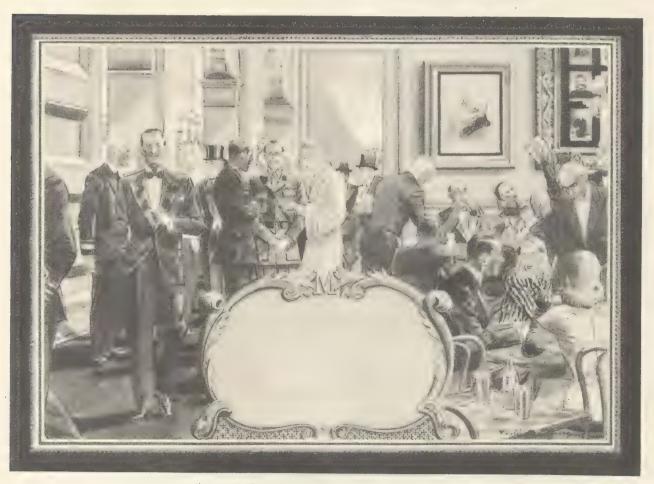
Leslie Saalburg

When Mr. Saalburg plans an illustration, he makes many sketches of the material comprising the drawing, including the setting, details of furniture, groups of people, like those shown on the preceding page. There were many others. He then composes his material on a piece of tracing paper, and when the arrangement satisfies him, he covers the reverse side of the tracing paper with a tone of gray made with a soft lead pencil and transfers the drawing's outline to the board, on which he proceeds to make a water-color painting.

Esquire, November, 1944

Pencil drawing of final arrangement

"OPENING NIGHT AT THE METROPOLITAN"
A black-and-white reproduction of the color drawing

James Sessions

"GIVIN' 'EM HELL AT GUADALCANAL"

The reproduction, from a print in full color of the picture, shown above discloses the development of considerable detail which is only roughly indicated in the pencil study at the right. The figure in the lower left-hand corner of the sketch has been left out of the finished painting. Mr. Sessions' sense of the dramatic is clearly displayed in this preliminary study.

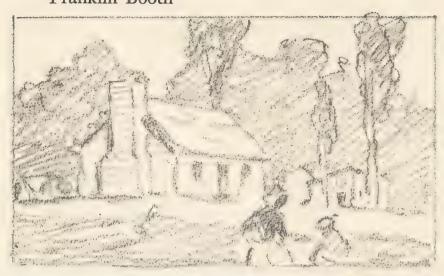*Reproduced by courtesy of Willys-Overland Motors, Inc.*

"The Scratchboard Technique"
Franklin Booth

MR. BOOTH, whose exquisite pen-and-ink drawings have been known for more than three decades, developed a technique distinctly his own. It simulated in effect the delicate wood engravings of the latter half of the nineteenth century, and although many of his decorative compositions were executed directly with pen and ink, his method seemed to be the natural outgrowth of the "scratchboard technique."

Scratchboard drawings are made by creating white areas in black backgrounds in the manner demonstrated in the portion of the chapter "Elements of Freehand Drawing" devoted to the study of light and shade. The board used has a chalk surface which is inked with a solid mass of black. Working with a sharp-pointed instrument, the artist scratches the surface of the board, removing the ink with the chalk.

Mr. Booth demonstrates this method in three stages shown to the right. The drawings are reproduced the same size as the originals. After pencil lines have established the composition (at top) the solids are painted in with a brush, and the scratching out of the white areas is accomplished with the use of a sharp knife or razor blade.

Courtesy of New York Telephone Company

"The Scratchboard Technique"
John Gaydos

Mr. Gaydos composes his action in preliminary sketches.

The figures are studied in relation to the part they play in the design, a soft pencil being used so that the effect of the mass rather than the detail is shown.

With darker tones, the design is developed more accurately, and when the effect is satisfactory it is traced in outline on the chalk-coated surface of the scratchboard.

With a brush, solid masses covering the surface where the design will appear are painted in with ink or a half-and-half mixture of lampblack and ink. Small details are drawn with a pen.

The whites are scratched out with a sharp instrument. The possibilities for obtaining varied textures are many and can be discovered by using sandpaper, razor blade, and a penknife.

"The Scratchboard Technique"
Irwin Smith

ACCORDING TO Mr. Smith, the artist will do well to develop his lightest areas first, then the next lightest, and so on progressively down the scale of values to the black. An attempt to reverse this process may result in forcing all values into so high a key that, when the whites are reached, there will be no perceptible difference among the lighter tones. He also suggests that the black be sprayed on to the scratchboard with an air brush to effect a more even thickness of the ink film.

Reproduced by courtesy of
Air Transport Association

"The Scratchboard Technique"
W. Parke Johnson

W. PARKE JOHNSON, who has attained much distinction as a master of the scratchboard effects, gives a demonstration in four progressive stages of how he prepares one of his drawings for reproduction, a study of Humphrey Bogart in *Passage to Marseilles*. Starting with tracing paper, he lays out his composition in broad, bold strokes, using a very soft pencil having a flat, broad edge. In the first stage, shown at the left, the action and the characteristic lines that define the portrait are quickly discernible. Areas of dark and light are indicated, and Mr. Johnson begins to visualize the dramatic possibilities of his subject.

The pencil sketch is developed into a carefully executed drawing in light and shade. This is submitted for approval. Thinking in terms of light lines and strong high lights on a dark background, the artist takes advantage of overhead lighting, which creates deep shadows and sharp accents on the figure. Textures are determined, such as in the torn jersey and the grainy character of the flesh in half-light. Sharp definition in scratchboard drawings demands care and accuracy in draftsmanship, and painstaking preparation in the pencil study will pay big dividends when the drawing is transferred to the chalked board.

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W. Parke Johnson

When the drawing in line, defining all shapes of tones, is finished and transferred to the inked surface of the scratchboard, Mr. Johnson begins by scraping the ink away at the points of the most pronounced high lights. In the development of the middle tones, the lines follow the form so that the direction of the plane of each surface is clearly understood by the observer. The edge of the tone on the shoulder has been softened by cutting across the lines where they approach the high light. Note the shiny, metallic surface on the machine gun and how it differs in texture from the other materials in the drawing.

Reproduced by courtesy of Warner Brothers. An illustration of Humphrey Bogart from an advertisement for the motion picture, Passage to Marseilles.

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"The Scratchboard Technique"
W. Parke Johnson

(continued)

The simplest shapes and the severest contrasts are placed near the center of the picture above with dramatic effect. The rough texture on the rudder and on the keel suggests underwater plant growth, which creates an interesting pattern. At the right, Mr. Johnson demonstrates the effectiveness of the technique in rendering the muscles of the figure and the smoothness of the hose.
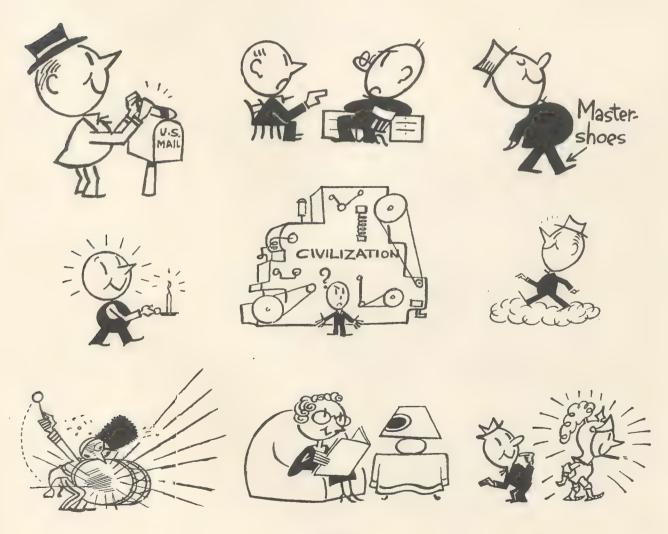
.316

Comic Illustration in Advertising

Don Herold

MERCHANDISING WITH a touch of humor is especially effective, and comic illustrations serve as salesmen who tell the story in the pleasantest way. Don Herold says that cartoons sell goods for the same reasons that they win political campaigns, and they attract attention in advertising columns and win customers for the same reasons that the cartoon sections of newspapers attract a far larger proportion of readers than any other department of the papers, according to scientific reader surveys. They give to an advertisement a touch of entertainment which repays the reader for reading the advertisement.

Exaggerated action is the keynote of the cartoon; it is the device by which the idea is put across. Large heads on small bodies make possible the featuring of the expression on the face and reduce irrelevant details to a size fitting their importance.

The idea is the reason for the comic illustration, and all attention should be directed to it. It is accomplished when the artist is equipped with both a talent for selling merchandise and a talent for humor in drawing.

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The Brush Technique of Don Calhoun

MR. CALHOUN sketches his characters roughly on a piece of thin paper to determine the action—the sweep of line—then to study expression, and finally to reduce the figure to the simplest elements. The sketch is then transferred or traced onto a piece of illustration board, and a brush with ink is used to complete the drawing. In commenting on his work, he says that he follows the light-gray carbon marks on the board and tries to get an interesting free-flowing line with contrast in thickness. This "thick-thin" quality gives to Mr. Calhoun's work its decorativeness and charm.

The above drawings are reproduced by courtesy of Scovill Manufacturing Company.

Reproduced by courtesy of Talon, Inc.

A. Halpert

FOLLOWING LESSONS learned earlier, the student should plan his comic drawing in much the same way he has laid out other illustrations, correcting his first efforts in later studies, until he is satisfied with the sketch, then inking in his drawing. Mr. Halpert follows this method, as demonstrated below, and uses brush and ink for his finished work. The chief points of expertness in this drawing are the characters he has created and the variety in the spotting of the solid-black areas.

1. A rough pencil sketch is made.

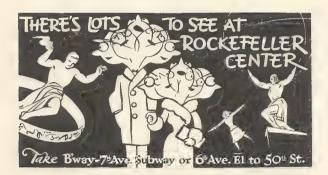
2. Details are studied further.
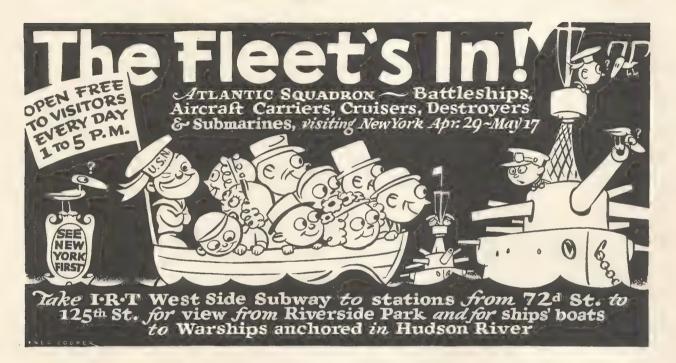

3. Tone spotting is indicated.

4. The drawing is inked in.

Fred G. Cooper

POSTERS OF "The Subway Sun"

The above posters were displayed in the cars of the Interborough Rapid Transit system of New York City a number of years ago. They have been selected at random to show the variety of ideas Mr. Cooper produces, and the interesting ways he works them out. Every line drawn has a meaning, and Mr. Cooper uses them sparingly. Balance of lights and darks makes the posters successful. Try doing these in plain outline.

A Character Is Created in Plastic
Nat White

*The Story Behind
Okey Oakite is told by
Walter Geoghegan, art director
of Calkins and Holden*

OKEY OAKITE is one of the well-known trade characters in American advertising. His job is to show both the housewife and tradesmen all the things Oakite can do, accompanied by whimsical though appropriate jingles.

The problem of having Okey look like the same person, although shown in many different poses, was solved by preparing a master statuette of the exact character the advertiser wished him to be.

Expression of mouth, eyes, tilt of hat, length of jacket, etc., were then put into a three-dimensional figure which could always be referred to by the artist, Nat White.

Reproduced by courtesy of Oakite Products, Inc.

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The Making of a Poster

GOOD POSTERS tell their story simply and very quickly. They are planned to attract attention and hold the interest of the observer until the message is conveyed. This is done by means of strong color, by effective contrasts in both tone and color, and by simplification of the illustrative material.

The modern poster is said to have originated with Japanese prints that were used about the middle of the nineteenth century to wrap pieces of china which were shipped from the Orient. These prints, arriving in England and on continental Europe, influenced many of the outstanding artists of the period. The work of Whistler and Degas shows traces of the Japanese manner. Artists working in lithography tried to accomplish what the Japanese did with wood-block printing. Treating the design in flat areas was the method most frequently used.

Adolph Treidler, whose work has been in demand for more than thirty years, has been an outstanding exponent of the flat treatment of color areas. He uses photographic material, "posterizing" it with striking color effects. He believes the best poster is the simple statement in large masses of bold color and avoids realistic interpretations of his subject matter.

In planning a poster, the idea is sketched roughly with emphasis on the contrasts. These contrasts are then interpreted in color, and successive sketches develop the design. Relationship between the lettering and the illustrative material is studied.

When the finished poster is made, the small sketch is enlarged by means of the familiar method of blocking out in squares, and the outlines of the different areas are refined, because all detail in the drawing is expressed in these contours. The effect is one of mass color having chromatic and tonal contrast.

In the use of color, complementary colors are usually chosen for the greatest contrast desired. This will assure the immediate attention of the observer. Colors that harmonize with the chief contrasting scheme are then selected for the secondary elements in the poster. Colors are used to symbolize the objects they represent and are not used to simulate natural effects. The most successful posters are those having a strong and simple effect and are usually limited in the use of color.

There are many instances among successful posters in use today where the illustrative material is painted in realistic detail, but the general principle of simplification of subject matter prevails as it did in earlier periods of the art. The steps in preparing a modern poster for billboard use are shown below. They are illustrated under the direction of Herbert Noxon, art director of the McCann Erickson advertising agency, and are reproduced through its courtesy.

Rough sketches of many ideas are made with a soft pencil (in this instance by Ed Graham), and one is selected.

The "roughs" are simplified. More action is desired in the motorcycle cop, so the artist develops the selected idea.

Continuing with a soft pencil, the cartoon figure is exchanged for a more realistic sketch of the officer.

A model is engaged for the desired pose, and a painting in color is made by Howard Scott for the finished poster.

The finished poster is framed in a setting typical of the roadside billboard, and photographed to show the client the effect of the work when reproduced in the final size.

This finished job is printed on twenty-four separate sheets of paper and mounted in position by the bill-posting agencies that lease the advertising space.

Reproduced by courtesy of McCann Erickson, Inc.

Adolph Treidler

A photograph is used . . .

as the basis for action . . .

and the sketch is studied further for composition and the simplification of detail.

Mr. Treidler considers the photograph useful in establishing size relations, such as the figures to the boat. The elements are then studied in a color sketch to determine good relationships in the proportion of color, shapes, and sizes of the various flat areas in the design. When this is done, a careful drawing is made in outline, defining each area of color. These outlines disappear as the color is painted in. Observe, in the reproduction of the finished drawing above, the interesting spotting of darks and the balance of tone in the poster.

Decorative Painting

WALL DECORATION has been allied with architecture from the earliest times on record. It was the forerunner of decorative painting as we know it today, and it is interesting to observe how closely the work of the twentieth century follows in purpose and form the large paintings and carvings on the Egyptian, Babylonian, and Assyrian temples. Many walls in the tombs of the early Pharaohs resemble an illustrated book of the manners and customs of the people. The battles, judgment scenes, and religious rites and ceremonies were portrayed in brilliant color, surrounded by bands of green, yellow, and blue.

Symbolism was used to project abstract ideas such as representations of the gods, and emblems were employed to suggest characteristics. Thus, a human figure would be shown wearing the head of a jackal, a ram, an ibis, a crocodile, cow, lion, or cat. No perspective or light and shade was used, and when groups of figures were shown, prominence was given to the important figure by making it larger than the others. Water was indicated by zigzag lines, one tree symbolized a forest, and one fortification represented a city. Egyptian painting never lacked its decorative characteristic.

Assyrian painting and bas-reliefs showed a greater tendency to ignore the gods, and directed attention to the life and pursuits of the monarch. Scenes depicting the king's prowess in battle and on the hunt were favorite subjects. The Mesopotamian countryside did not yield hard stone for buildings, so the temples were built of brick that was highly colored. Glazed brick figured in their designs, and the first evidences of mosaics are found here. Here, we find also the earliest picturization of processions, showing chariots, horses, archers, and viand-bearing attendants.

Persian and Phoenician painting followed much along the same lines as that of the Egyptians and Assyrians, but the Greeks made a further advance, decorating their walls in fresco, which is painting color into wet plaster. They also mixed color with wax and applied it to the walls with a hot flat blade. Perspective was introduced in representing both figures and landscape, but the result remained decorative until the advent of the Ionian School (about the fifth century B.C.), when realistic effects appeared in painting.

Fresco painting continued with the Romans, Pompeians, and through the early Christian period, when it appeared on the walls of the catacombs in Rome. This method produced the best paintings in the Gothic period in Italy, when all art was created for the Church. The natural appearance of things began to find its way into the work of Italian artists, and the Renaissance culminated in the great muralists Raphael, Michelangelo, and Leonardo da Vinci.

No attempt will be made in so short a treatment of this vast subject to cover the history of decorative painting down to the present time, but it is interesting to observe that through the full development of the mural art decorators drew on similar material for their paintings, using the human figure to symbolize abstract ideas, and representing the various forces in thought by allegorical allusions. Today, as centuries ago, the procession is a favorite theme because it offers the painter opportunity for colorful pageantry. National characters are immortalized much in the same way as were the Pharaohs and the Assyrian kings, and this "processional" characteristic seems to have appealed to each successive generation of decorators of national monuments.

Murals Are Allied with Architecture

Aside from their size, the paintings that serve as wall decorations in the large spaces in buildings provided for public use differ in many ways from the pictures suitable for display in private homes. Painting as wall decoration is definitely

At right, Carl Roters at work on one of his murals for the American folk-song series made for the Metropolitan Life Insurance Company.

Above, the mural in place. It illustrates the song "She'll Be Comin' Round the Mountain When She Comes," adapted by mountaineers from an old-time spiritual.

part of the architectural scheme, whereas the smaller canvases framed for the home are not. In composition and color, the decoration is designed to harmonize with the particular style of architecture it is to embellish. The scale of the enclosure will determine the scale and treatment of the painting. A fine example of this is to be found in the four great mural paintings by Sir Frank Brangwyn, the famous British artist, that cover the south wall of each of the four elevator banks in the enormous hall of the largest building in Rocke-
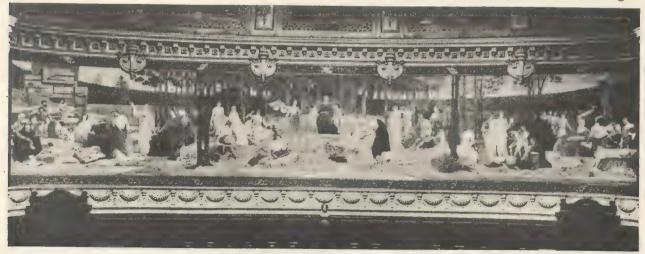
feller Center, New York. The paintings are seventeen feet high and twenty feet long, and the figures portrayed are impressively large, some much larger than life size. To visualize these walls covered with figures smaller than life size is to appreciate the grasp Mr. Brangwyn had on the problem of appropriate scale.

As in all art, unity of effect is desired, and the finest examples of decorative painting will be found where a given enclosure is devoted to the work of one artist who has harmonized his work

with the whole architectural scheme. An interesting illustration of this wisdom can be seen in the Cleveland Terminal, Cleveland, Ohio, where Jules Guerin painted a series of seven lunettes. Lunettes are half circles that occupy the spaces created by the upper portion of arches. In design, the figures are grouped in the center of each panel, but the line of the horizon that separates a blue sky from the warmer earth colorings starts from a low position in the panels at the extreme end of the series and rises gradually across the background until it reaches its height in the center mural. The effect is one of continuity and helps to tie together the seven panels separated by the shape of the arches.

In the Boston Public Library the works of three muralists are featured, consisting of *The Prophets,* by John Singer Sargent; a series of panels by Puvis de Chavannes; and the *Quest of the Holy Grail,* by Edwin A. Abbey. No one of the three groups shares an enclosure with any other, yet their proximity to each other invites comparison. A student will observe that both Puvis de Chavannes and Sargent harmonized their subjects with the architecture and chose their color with regard to the color of the structural materials, whereas Abbey painted a brilliant, storytelling series of pictures which won many admirers but failed to harmonize with the architectural setting. Mr. Abbey enjoyed an enviable reputation as an illustrator both in Great Britain and America at the time he received his commission for the Bos-

ton panels, but had scarcely ventured into the field of decorative painting.

Puvis de Chavannes designed with the simplest use of line and in the most delicate color. His work has a tranquil quality which puts the observer at ease, frequently elevating thought to a spiritual plane, and provoking meditation on the abstract ideas concerning immortality. He exemplifies the perfect decorator, and no treatise on the subject of decoration would be representative that failed to direct the student's attention to the superb mural he painted in the rotunda of the Sorbonne in Paris. *The Sacred Grove* will serve future generations of painters as an inspiration beyond the power of words to describe.

Mural painters are frequently confronted with the problem of including in their decoration a door, a radiator opening, or some other opening in the wall surface serving a practical purpose. These "holes in the wall" challenge an artist's imagination to invent some plausible use for the structural necessity in his painting. The walls in the lunchrooms of the Home Office of the Metropolitan Life Insurance Company in New York presented this problem to many of the decorators chosen for the work. When painting the American colonization panels, the late Newell C. Wyeth outlined the areas where the openings would occur, and designed his composition so that the eye of the observer would not be required to cross this area to follow the course toward any objective in the painting. The paintings were also designed

The Sacred Grove, by Puvis de Chavannes, adorns the wall of the Amphitheater in the Sorbonne, in Paris. Although it is divided by the trees in the foreground into three panels, the long continuous lines in the background effect unity for the panel.

The late Newell Convers Wyeth painted what he called "the lyrical side" of the Pilgrims' life, in a series to adorn the walls of a lounge in the lunchrooms of the Metropolitan Life Insurance Company's Home Office. The picture above shows one of the series as it was stretched on the wall of the artist's studio, with a space provided where a door would go. *To the right* is a portion of the Thanksgiving feast scene which shows the colonists and Indians celebrating together a successful harvest. The vignetted bottom edge of the mural leaves a blank space of canvas that the furniture seems to fill interestingly.

Captain Ahab tells the crew of the *Pequod* that the purpose of the voyage is to pursue and destroy Moby Dick, the white whale which bereft him of his leg during a previous encounter, in one of Griffith Baily Coale's murals. Herman Melville's book furnished the inspiration for a series of wall decorations depicting the whaling days.

One of a series of wall decorations by Arthur Crisp illustrating the dances of various nations. The mural and the leather settee in front of it seem to belong to each other, which suggests that thought was given when the furniture was selected so that the grouping would be harmonious. *Reproduced by permission of Metropolitan Life Insurance Company.*

so that no portion of them would pass below the level of the furniture placed along the walls of the lounge.

Griffith Baily Coale accepted his share of the openings as necessary evils and acknowledged them, even glorifying them in certain instances. In the *Moby Dick* series, painted by Mr. Coale, a panel of lettering and an ornamental eagle are painted above a door, and the elements to either side of the door are designed to balance each other, forcing further attention to the structural circumstance. Carl Roters, in a series of wall paintings depicting American folk tunes, planned his compositions to draw the eye away from the doors. Where the openings were small, such as panel boards for electrical switches, the face of the door was covered with canvas and the painting continued over it.

Painting for wall decoration imposes upon the artist the responsibility of considering, first, the appropriateness of the subject matter selected and the purpose it is to serve; second, the need for the painting to be an integrated part of the whole architectural scheme and in color to take its place in the bigger design of the whole building; and third, the use of the pictorial material so that it will be understood by nearly every observer, because symbolism requires the simplest terms of expression.

The Library of Congress in Washington is a fine example of the integrating of the works of many artists into a huge architectural scheme. The grand suite of rooms running round the entire second story is a charming example of color sequence. The keynote is yellow, and this color is established in the four pavilions with blendings in both directions of red and blue. In harmony with these backgrounds the various artists keyed their work so that the entire building presents a unified color design.

Charles B. Falls

Reproduction of sketch made for a portion of a mural for the
Ford Motor Company, showing the use of squares as a method
for enlarging sketch to scale of finished work.

Architectural Drawings

RENDERINGS of architecture are the advertising drawings for that profession and, as such, require an artist to present buildings to their best advantage. Many of these drawings are made to show a client or builder how the building will appear at a time when only the plans for it have been prepared. Accuracy in presenting certain practical information is essential; correct scale should be preserved so that the client may judge correctly the effect of the design. To do this, the drawing is made in perspective, the artist using the information furnished by the architect.

The artist may take many liberties, however, in selecting a setting for the proposed building. He may introduce trees in the rendering of homes that aid in creating the effect of privacy and help beautify the site. In urban settings, he may indicate an open approach to the proposed building to permit a full view of it, an effect he could not obtain if he regarded the existence of neighboring buildings, which might be located where they hid portions of the proposed structure, and rendered them with a full consideration of the laws of perspective.

A point of view which would include the whole building without distortion should be taken at a distance of approximately one and a half times the height of the building. A picture should contain only what can be seen within an angle of 60 degrees; a scope wider than this is likely to cause distortion. Establishing a point of view at a sufficient distance to avoid this pitfall usually means the intrusion of buildings between the eye and the position of the proposed building, which makes it necessary that these obstructions be moved back, in effect widening the intersecting street.

In presenting architectural subjects it is well to consider the most usual approach to the building. Many architects consider the proportions of their design from some such point as they believe will be the place from which the majority of observers will see their building. When a building is designed, its proportions, indicated in the flat elevation, may fulfill the requirements of all accepted standards, yet may not fulfill them in reality, owing to the laws of perspective. The reverse may also be true: what may appear in good proportion from some given point may not meet the standards of good design from other points of view. Therefore, it has been found that a work of art in three dimensions should be designed to be viewed from some general approach. This principle, recognized by the Greeks in the design of their temples, is practiced by architects and sculptors today.

When selecting the point of view from which to make the drawing of a building, give first consideration to the contour of its shape silhouetted against the sky. To preserve the effect of unity, other features of the edifice should be subordinated to the singularity of the mass.

Drawing in Perspective with the Aid of Plans and Elevations

The student will find "mechanical perspective" more easily understood if he has familiarized himself with the principles of perspective which were explained in the chapter, "Elements of Freehand Drawing." The picture plane, the eye level, and the vanishing points are utilized in this subject also. The plan of the first floor, which is usually the one having the overall dimensions of the building, is placed so that it conforms to the approach, or point of view, selected. This point of view is established as the point of sight, and from this point the scope of the picture may be determined. The entire picture should fall within an angle of 60 degrees, and the line of sight from the point of sight should be directed toward the center of the sum of the exposures facing the point of sight.

The picture plane may be placed at any point along the line of sight and perpendicular to it. If the plan is made to the scale of one-quarter inch to the foot, and the drawing is desired at this

scale, the picture plane may be placed at any projection on the plan. This will make the perspective drawing the same scale as the plan at the point of the projection. If the drawing is desired one-eighth inch to the foot, or one-half of the quarter-inch scale, the picture plan should be established one-half the distance between the plan and the point of sight. To make a picture in larger scale than the plan, the picture plane should be located beyond the plan but along the same line of sight and perpendicular to it.

All projections on the plan, including the edges of doors, windows, and other breaks in the face of the design, are then registered on the picture plane, using the point of sight as a radial point. The picture plane, in this way, receives all information necessary to the establishing of all vertical elements of the design.

The drawing is then developed at some place on the board between the point of sight and the picture plane. A horizontal line representing the eye level is established in relation to the elevation desired for the point of view. For instance, if the house is to be shown below the eye level, the line is drawn high enough on the board to permit the perspective to be developed beneath it. If it is desired to show the house from a point below, as though it stood high on a hill, the eye level should be established at a point lower on the board. Frequently, the eye level is placed in relation to the average height a person's eye is above the ground level, or at about five feet above the point where the base of the building will be shown.

The vanishing points for the drawing must now be located somewhere along this eye level. This is done in the following manner. Using the point of sight as a radial point, extend lines parallel to each face of the building on the plan until these lines intersect the picture plane. These will represent the vanishing point on a vertical plane. To locate these points along the eye level, or the "horizontal plane," draw lines perpendicularly from the picture plane to the eye level. All projections indicated on the picture plane may now be located in the same way by means of vertical lines. This completes the use of the plan, and the next step requires information taken from the front and side elevations of the house.

Locate on the eye level the point corresponding to the projection on the picture plane where the scale of the drawing was determined and draw a vertical line. If the drawing is being made one-quarter inch to the foot, or at some other convenient scale, the horizontal levels in the elevation will be registered at that scale on this vertical line, and will be extended in perspective by connecting these points with the vanishing points. These will establish the horizontal lines in perspective for windows, doors, eaves, ground line, and roof.
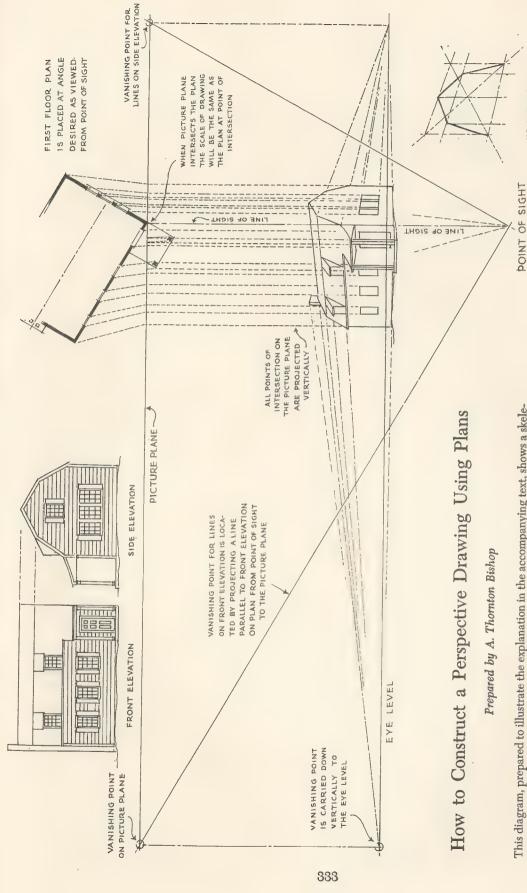
To locate the peak of the roof, find the center of the surface over which the roof slopes, intersect by drawing diagonals, through which the vertical is constructed that locates the top ridge. (See the accompanying illustration.)

All objects drawn in perspective from plans and elevations, including interiors, and machines, can be projected by this method.

Suggestions for Rendering Drawings

In the finished perspective the student's ability to compose the elements into a harmonious unit meets a severe test. The features of the design must be brought out distinctly and in relation to their importance in the architectural design. Small details should not be overplayed. The most important element should dominate the scheme. It is well to study the entire effect in small, thumbnail sketches before proceeding with the finished drawing. In the series of accompanying drawings, Chester B. Price and Louis C. Rosenberg, leading renderers in the architectural profession, show this method of studying effects in preliminary drawings before selecting what seems to them the most effective presentation.

In rendering the face of the building, a gradation of tone will increase the effect of height. If a light sky is used, the darker tones can be placed at the top of the building; if a dark sky is planned, the effect should be reversed. When a doorway is given prominence in a design, it is the custom to concentrate attention at this point by creating a contrast between the dark of the opening and the light of the surrounding masonry.

Labels in diagram:

FIRST FLOOR PLAN IS PLACED AT ANGLE DESIRED AS VIEWED. FROM POINT OF SIGHT

VANISHING POINT FOR LINES ON SIDE ELEVATION

WHEN PICTURE PLANE INTERSECTS THE PLAN THE SCALE OF DRAWING WILL BE THE SAME AS THE PLAN AT POINT OF INTERSECTION

LINE OF SIGHT

LINE OF SIGHT

POINT OF SIGHT

HOW CENTER LINE OF GABLE IS FOUND

PICTURE PLANE

ALL POINTS OF INTERSECTION ON THE PICTURE PLANE ARE PROJECTED VERTICALLY

SIDE ELEVATION

VANISHING POINT FOR LINES ON FRONT ELEVATION IS LOCATED BY PROJECTING A LINE PARALLEL TO FRONT ELEVATION ON PLAN FROM POINT OF SIGHT TO THE PICTURE PLANE

FRONT ELEVATION

VANISHING POINT ON PICTURE PLANE

EYE LEVEL

VANISHING POINT IS CARRIED DOWN VERTICALLY TO THE EYE LEVEL

How to Construct a Perspective Drawing Using Plans

Prepared by A. Thornton Bishop

This diagram, prepared to illustrate the explanation in the accompanying text, shows a skeleton plan of the first floor. As the positions of the corners of the building, the windows, and the door are the only data used, room divisions have been eliminated. When stories above the first floor appear to differ with regard to general dimensions and the position of the windows, each plan is placed successively over the first-floor plan, and the radial lines from the point of sight establish a new set of intersections on the picture plane which are conveyed to their places in the drawing below. This method is used to draw perspectives of tall buildings having setbacks at certain stories. The picture plane in this diagram is shown intersecting the plane at the near corner of the building. It is on this line that the vertical dimensions on the elevation are registered on the perspective drawing.

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Foliage

Trees are important in the drawing of houses. They suggest livability and friendliness. They serve as relief to the sharp contrasting angles of the roof lines and furnish the opportunity for interesting patterns of tone. They can be placed where their masses of foliage help draw the attention of the observer to some particular point of interest in the composition; by appearing in the foreground, dark and in relief, they frame the feature of the drawing.

Frequently, trees suggest the locality of the subject—palm trees, for example, might indicate a Southern setting, and pine trees, a Northern scene. This consideration might warrant further study of the types of trees which grow in various sections of the country. Maples and birch are associated with Northern settings, whereas the magnolia, catalpa, and the eucalyptus trees are found in the Southern states. Californian localities are suggested by the use of cypress and the large sequoias. Oaks, elms, and chestnuts help identify the Northeastern section of the United States.

PRELIMINARY OUTLINE

LIGHT MASS LEFT AS WHITE PAPER

LIGHT MASS BLENDED INTO SURROUNDING TONES

From How to Draw Trees *by Frank M. Rines. Courtesy of Bridgman Publishers, Inc.*

Trees also have personality, and some judgment is required to select the right one for the purpose. Large spreading oaks and maples seem to offer protection to a small house which is shown near them. Fruit trees add an appropriate note to the country farmhouse, and evergreens "dress up" the town house. There is something melancholy about the Lombardy poplar as it stands like a sentinel near a fallen column in an Italian landscape. The vertical lines of these towering trees make an effective contrast with the low horizontal lines of a villa, which may account for the appropriate use of low, rambling structures in sections where these trees are to be found.

In the English countryside, the settings seem to be cultivated, and no drawing would catch the spirit of the locality which failed to suggest the neat arrangement of the garden, with the hedges uniform and carefully trimmed and, perhaps, the dwelling snugly set against a background of oaks and walnuts and approached by terraces of varying levels.

In drawing a tree it is well to start with the trunk and develop it as it would grow. In this way the student will learn to observe how balance of the foliage is established. Develop the limbs from the trunk, the branches from the limbs, and finally the network of thinner members, which gives to the tree in winter its lacy appearance. Over this network the masses of foliage are developed, much as the flesh is developed over the bony skeleton in figure drawing.

In developing the network of foliage, the student should remember what he has learned in the study of design, and compose the areas of light and shade with regard to the purpose of the tree in the composition. If a dark background is needed to emphasize the contour of some architectural detail, such as an interesting chimney or gable, the masses of foliage will have to be studied with this end in view.

There is perhaps no portion of a drawing where an artist shows his individuality more than in the rendering of trees. For this reason, no predetermined method should be imposed upon a student. Rather, it would be better for him to sketch trees either from photographs or from the real objects out-of-doors. A soft pencil will be the handiest instrument to begin with, expressing the masses of waving foliage with broad strokes. A refinement of this method will develop with practice. When short strokes are used, the direction of the stroke should suggest the radiation of the leaves from a point on the branch. In this way the tree is presented as a living thing.

When, because of distance, only the masses of foliage are distinguishable, the strokes should indicate in what planes the masses lie. An individual leaf indication at such a distance would appear unnatural.

In drawing flowering shrubs, such as rhododendrons, hydrangeas, laurel, and magnolias, lay out the blossoms first, then draw the leaf formation around them, placing the darks where they will accentuate the shape of the flower and so identify the plant.

SHADOW AREA SHOWING CHANGE IN
DIRECTION OF STROKES   ALSO
BREAKS IN STROKES, TO PREVENT
SOLIDITY.

Courtesy of Bridgman Publishers, Inc.

Courtesy of Bridgman Publishers, Inc.

How to Draw Trees by Frank M. Rines

"NOTHING CAN take the place of working directly from the actual subject—from nature," states Mr. Rines, instructor of drawing at the Cambridge School of Architecture and Landscape Architecture. This is not always convenient, and professionals and students alike are often dependent on photographs. In either case, the problem of selecting what subject matter to include in the drawing is ever current. Simplifying the many small patterns of light and dark into fewer masses of tone is the first decision to make.

Foliage can be portrayed with less difficulty if a soft pencil is used. Broad strokes define the masses simply, and sharp accents are ever at the command of the trained hand using the softer grades of lead.

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Architectural Rendering by Otto R. Eggers

A House in Williamsburg, Va.

Otto R. Eggers

(*continued*)

A Providence Dooryard

Otto R. Eggers

St. George's Churchyard,
Hempstead, L. I.

A. Thornton Bishop

THE BISHOP'S THRONE
ST. PAUL'S CATHEDRAL
London

From Renaissance Architecture of England
by A. Thornton Bishop; John Wiley and Sons.
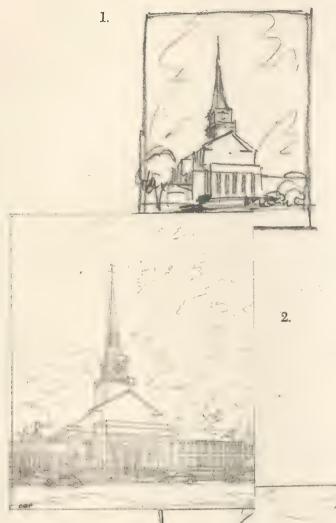
Architectural Rendering by Chester B. Price

1.

2.

3.

4.

MR. PRICE says, "The most important element to consider is the composition. Study the blueprints of the proposed building and visualize it as it will appear when built, taking into consideration the existing and proposed surroundings. Then make several quick freehand sketches from various points of view. Select one, as No. 1, and project a perspective accurately from a point which approximates the view in sketch No. 1.

"Over this perspective (No. 2) which is made on tracing paper, study a tonal arrangement, using charcoal on another piece of tracing paper. Two such studies (3 and 4) were made to determine position of trees, cars, people, etc., which are then drawn on the perspective outline No. 2.

"This outline is then transferred, by a double rubbing, to a sheet of smooth-finish illustration board, and, with the charcoal studies as a guide, the final rendering is drawn with a carbon pencil."

Chester B. Price

One of many charcoal preliminary studies.

FINAL RENDERING

Bible Presbyterian Church, Collingswood, N. J.
George L. J. Neutze and
William H. Thompson, Architects

Mr. Price renders brickwork by means of single lines following the horizontal courses as they would appear in perspective. The low trees at either side of the main entrance give a monumental effect to the building.
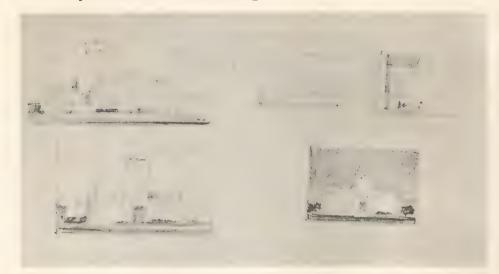

The perspective outline drawing.

FINAL RENDERING
Concrete hangars drawn by Mr. Price for the Lone Star Cement Corporation

How to Make an Architectural Rendering
by Louis C. Rosenberg

Following a procedure not unlike that used by Mr. Price, this well-known renderer makes small thumbnail sketches to determine the best angle from which to view the building.

A carefully drawn visualization in perspective is made in outline by means of the mechanical method described in the text pages of this section. This is made to approximate the view in the small sketch that was selected as most satisfactory.

Using a sheet of tracing paper over the outline perspective, Mr. Rosenberg studies the general effect he desires in tone, using a soft carbon pencil or charcoal.

Louis C. Rosenberg

Mr. Rosenberg shows in this stage of his drawing the method he uses to "build up" his skies. Short strokes of the pencil to approximate a tone are made diagonally in both directions and vertically. This "cross-hatch" effect creates a grained appearance.
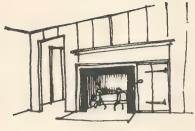
The side of the building at the left is darkened, which helps to make it stand out against the sky. The groups of buildings at the side are made dark to contrast with the featured building.

The tower of the central building is also darkened to heighten the dramatic effect, the doorway receives an accent, and the elements of traffic are also darkened. It is the mass of the building Mr. Rosenberg has emphasized for the architects, Stanton and Johnson.

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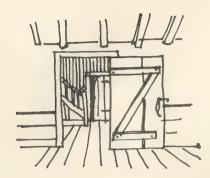
Sketching Architectural Ideas
by Royal Barry Wills

These sketches, made with pen and ink, and reproduced from *Better Houses for Budgeteers*, by Mr. Wills, show by the means of a few lines the basic relationships which architectural features bear to their surroundings. An idea is made more effective when the elements near it are simplified.
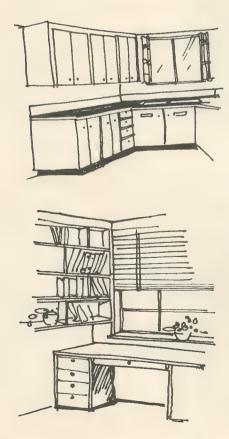
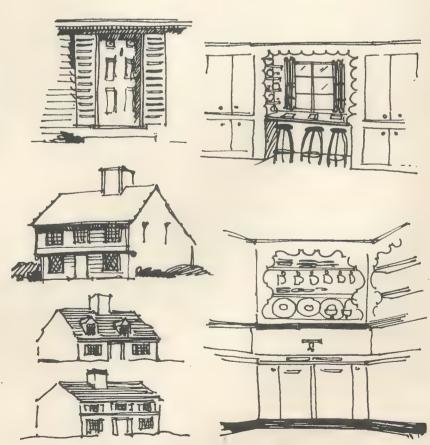*Courtesy of Architectural Book Publishing Co., Inc.*

Interiors and Furniture

EQUIPPED WITH A knowledge of perspective, the student should not experience much difficulty with the drawing of interiors and their accessories—chiefly furniture. Most interiors resemble the inside of a box, and the vanishing points governing the floor and ceiling lines have a bearing on the rectangular objects within the room. Where the planes of the walls and ceiling parallel the surfaces of the furniture, the same vanishing points which serve for the interior will also serve for the furniture. The same eye level will prevail throughout. Objects with edges parallel with the floor and ceiling, but which are placed at an angle differing from the surface of the wall, can be constructed using the same eye level as the room but differing with respect to the vanishing points. If the student is in doubt about this application of the principles of perspective, he should refer to lessons presented in "Elements of Freehand Drawing."

It is important that all phases of the subject of perspective be understood because the next phase for the student to consider is proper scale, and the relative scale of the objects in the room to the room itself is determined by the proper application of the laws of perspective. For instance, to show the top of a dining-room table, which stands about thirty inches above the floor level, it would be necessary to establish the eye level somewhat higher. Whatever eye level is determined will govern all other rectangular objects which are in agreement vertically or horizontally with the room. Therefore, the top of a buffet, which stands about thirty-eight inches above the floor, should appear about eight inches higher than the table, and the height of the chair seats would appear about eighteen and one-half inches from the floor. The far wall of the room, at the position of the vanishing point, is a good place to establish relative heights of objects, from which they may be projected at their proper height to their position in the room.
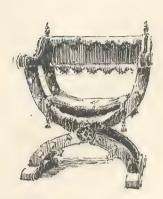
Objects that appear oversize or undersize in drawings are the result of hurried efforts before their relative scale has been determined. Observation will aid a student in this phase of his work. Realizing that the top of a grand piano is about forty inches above the floor, that living-room chairs are about eighteen inches from floor to seat, that door openings are approximately two feet six inches by seven feet, and that window sills are generally twenty-eight inches from the floor will give the student sufficient information about the objects people live with to help him present interiors and their accessories in proper scale.

Interiors offer the student a variety of lighting effects. Differing from exteriors where objects are illuminated by a single source of light—the sun—interiors may be lighted by artificial means, such as side lamps, bridge lamps, and center overhead lighting, or from the windows, which create as many sources of light as there are openings to admit it. Cross-lighting softens shadows, and often the darkened surface of an object blends imperceptibly into the shadowy background of the room. This condition gives the artist considerable latitude for his effects. However, it must be remembered that in spite of the most brilliant artificial illumination, the general tonal key of interiors is lower than exteriors because of the greater illumination from sunlight.

Representation of the historic periods of furniture is at once a delight and a challenge to the student to sense the qualities of style. The earliest specimens of household furniture we are acquainted with show a high degree of artistry in their composition. They reflect the personalities of craftsmen, who in turn reflected the culture and thinking of their times. This essence, or quality, is the element the artist must recognize in order to express it, and it is not overstating the value of research and a familiarity with the periods of history, and, to a wide extent, the biographies of its outstanding

characters, to advise the student to acquaint himself with the romantic past. Designs of fabrics and textiles will have greater meaning to him. A knowledge of the methods of the craftsmen will make details of manufacture, otherwise unexplainable, clear.

For the inspiration and origin of modern furniture, everything dates from the Renaissance. In Italy, the products can be distinguished by the exuberance of poetic fancy and by their tendency to overexpress, as though the craftsman were surcharged with feeling. The principles practiced by the Italians can be traced to the Greeks, yet in the development of these principles the Renaissance workmen introduced the warmth and variety of their own temperament. The chests, carved in wood at first, grew by process of evolution into gilded marriage coffers, richly decorated. The bed was architectural in form, with a base and roof supported on four orders. The columns were carved to revive the spirit of their classic precedents.

Italian armchair of the late sixteenth century

In Spain, the Renaissance showed a distinctive originality with Moorish or Saracenic aspect. The Moors who conquered Spain brought with them the elaborate and fantastic designs, called arabesques, from the Near East. These arabesques, combined with vivid colorings, took a strong hold on the Spanish imagination that is evident even today.

In England, Italian craftsmen, imported by King Henry VIII, created models which were followed by the native workmen. But this period, called Tudor,

from the family name of the sovereigns, is a queer mixture of the earlier Gothic period and the Italian forms. The fact that the new art was at variance with the Gothic — which was identified closely with 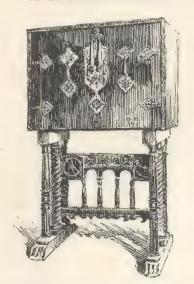the Roman Catholic religion — served greatly to convince the King of the importance of establishing it in England. For Henry had severed his relations with the Roman prelates. Thus the Renaissance forms flourished more quickly in England because of the desire of the King to blot out the evidence of the opposing religion. A study of the trends throughout this turbulent period will aid the student immeasurably as he struggles with the incongruities in the design of the period's decorative forms.

Early Tudor livery hutch showing Gothic carvings, dating from Henry VII

The furniture of the Tudor period was made chiefly of native oak, and the articles were few. They included chests and armoires, hutches, trestle tables, turned spindle chairs,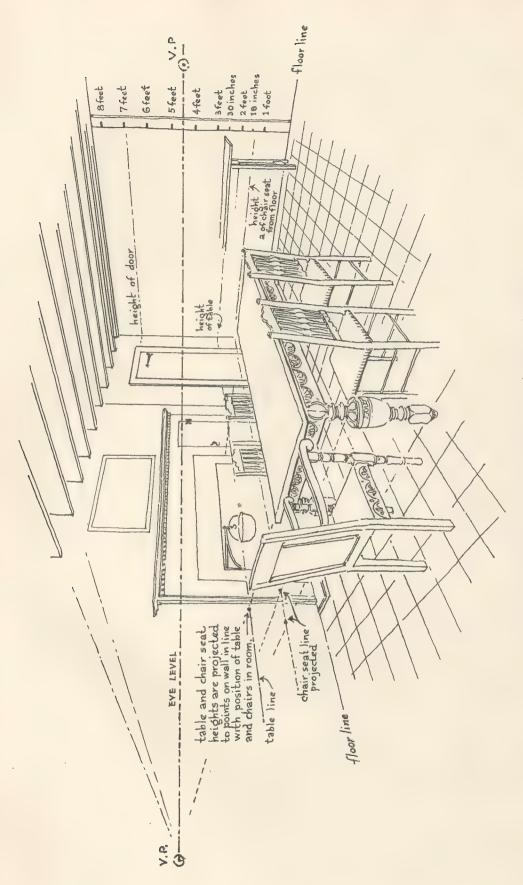 stools, and beds. During the reign of Queen Elizabeth, the pieces lost much of their massive appearance and were lavished with carving by German and Flemish artists who flocked to England, the new haven for Protestants.

During the reigns of the Stuart kings the tendency to lighten the effect of the furniture continued. In the middle of the seventeenth century, the invention of a saw which would divide a plank into as many thin sheets of wood as were desired greatly influenced the work of furniture-makers. Hitherto heavy carving had been almost the only ornament, and inch-thick planks were the usual material employed. The new invention made possible many variations in the way of inlay and veneer.

SKETCHES BY
A. THORNTON BISHOP

Sixteenth-century walnut cabinet with arabesque metal mounts. The roped column was a typical Spanish feature

8 feet
7 feet
6 feet
5 feet
V.P.
4 feet
3 feet
30 inches
2 feet
18 inches
1 foot

floor line

height of door

height of table

height of chair seat from floor

EYE LEVEL

table and chair seat heights are projected to points on wall in line with position of table and chairs in room.

table line

chair seat line projected

floor line

V.P.

How to Obtain Correct Proportion of Furniture in Interiors

To establish correct proportion of furniture and accessories in drawings of interiors, consideration must be given first to the relation the height of the room bears to the width or length, whichever is featured in the drawing. If the room is projected from a plan by means of mechanical perspective, all vertical edges in the room—in fact, all furniture—may be projected accurately by the same method as used in exteriors. However, the height of the room must be established to which all objects in the room will be scaled.

The best place to measure this height is somewhere along the back wall of the room. At this point construct an imaginary "yardstick" with subdivisions to indicate feet and half feet where needed. With this measuring stick, the accurate height of objects in the room may be indicated.

With the use of the vanishing points, project these heights around the side walls of the room to a point in line with the position of the object in the room. From the opposite vanishing point, these heights may be carried to the location where the object is to be constructed. A table or chair may then be drawn in correct proportion, regardless of its position in the room.

Another influence which changed the general aspect of furniture in the second half of the seventeenth century was the use of walnut wood in place of oak. It is recorded that in Elizabeth's day furniture of walnut was imported from Italy. The Queen ordered trees brought from that country and forests planted, in order that there might be a supply in England of the admired wood. Although Elizabeth did not live to see the trees in use, in the century following hers they grew into proper proportions and came suddenly into vogue.
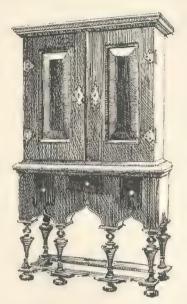
The Dutch styles, brought to England during the reign of William and Mary, introduced the curved leg, which became a distinctive feature of this and later periods. From this period dates the highboy, one of the French influences that emanated from the palace of Louis XIV at Versailles. This trend toward gracefulness developed in the period of the Georges. The reign of the first of this name is notable for the work of Thomas Chippendale, who carried on the traditions of the best furniture-makers of the past and improved on them. His influence

has been most lasting, which may be attributed to the patterns he crystallized and the knowledge of craftsmanship he imparted to others in book form as early as 1754. His manner of design is in three phases, the first and most important being the French. The second class of Chippendale designs had Gothic feeling, and the third satisfied the craze for Chinese reproductions which characterized the times.

Contemporaneous with Chippendale were the brothers Adam, Hepplewhite, and Sheraton. The Adam style is of special interest to Americans because in it is found the inspiration for American work in the period of the War of Independence. The chief difference between the work of Hepplewhite and Sheraton was that the former retained some of the methods of Chippendale, while Sheraton designed many of his pieces along severer lines.

In France, a national feeling in the design of furniture emerged from the years of Renaissance influence with the reign of Louis XIV, and a comparison of the three successive periods named after the kings—Louis XIV, Louis XV, and

William and Mary cabinet. The Dutch influence is so strong in this piece that one might imagine it to be a caricature of the Hollander of the day with his baggy pantaloons.

SKETCHES BY
A. THORNTON BISHOP

Louis XIV chair   Louis XV chair   Louis XVI chair

The personalities of the three French kings are reflected in the styles of furniture
identified with their reigns.

Louis XVI—illustrates perhaps more decisively than anything else the personalities of the monarchs and the spirit of their times. There is something sturdy about the leather chair of the Louis XIV period that is lacking in the others. It is definitely masculine.

With the exception of Duncan Phyfe, a chair- and cabinetmaker of New York, and William Savery of Philadelphia, who created many fine examples of furniture, the style referred to as early American was a compilation of the qualities of the English, French, and Dutch furniture of the time. The early colonists were, for the most part, from the middle or yeoman classes. They brought with them few articles other than rectangular, solid, utilitarian tables, chests, chairs, and beds. Designs wrought following their arrival were patterned after the models they had left behind them in Europe. Many of the native woods were used, including oak, walnut, and the softer pines and cedars. Later, maple was utilized, and this wood still remains most popular for pieces bearing the stamp of colonial tradition.

The work of Duncan Phyfe climaxed the period of early American originality in the furniture field. Reflecting the strong influences which resulted from admiration for France and dislike of England that prevailed in the period that followed the Revolution, Phyfe's designs had a severity that earned the title of the American Empire style.

In drawing furniture, the student should seek to capture the spirit of each piece. Where plainness and severity are prime characteristics, no compromise should be attempted in an effort to soften the effect. Conversely, if a graceful curve features the design, every effort should be made to depict this predominant feature. Likewise, the delicacy of a carved spindle should be preserved. Different woods and finishes may also be indicated by the treatment selected for the drawing.

Textiles should be examined to determine whether the texture is coarse or smooth, whether the material absorbs light or reflects it, and every effort should be made to differentiate the various fabrics, cotton, damask, velvet, velour, needlepoint, leather, and satin. Velours and satins are indicated with the use of contrasts—solid blacks representing the surfaces deflecting light away from the eye, and areas of white representing high lights. When rendering damasks and needlepoint, the student may adhere more closely to the range of tones seen in the original. These materials deflect light more evenly than do the velours, and the sharp high lights and deep shadows common to the latter are not so noticeable.

Max Wolter, whose work is reproduced in progressive stages as a demonstration of his method, uses washes of black water color applied over a framework of pen lines which retain the detail of the furniture. Through his masterly handling, the essence of the style is presented with a minimum of effort and a simplification of detail.
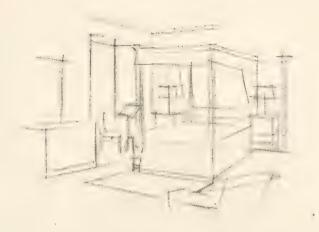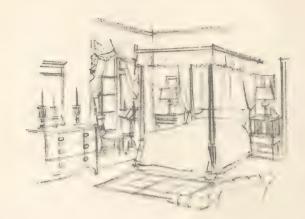
SKETCHES BY
A. THORNTON BISHOP

A Duncan Phyfe lyre table with brass animal feet expresses the severity typical of Phyfe's designs.

Duncan Phyfe side chair, showing a late French influence, and an old desk.

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How to Draw Furniture
Max Wolter

1. Beginning with the lines that indicate the floor, the ceiling, and the corner of the room, Mr. Wolter sketches the position of the furniture in its relation to the height of the room, using a soft pencil so that mistakes are easily erased. He blocks in all of the objects in the setting, using rectangular forms which he will modify later.
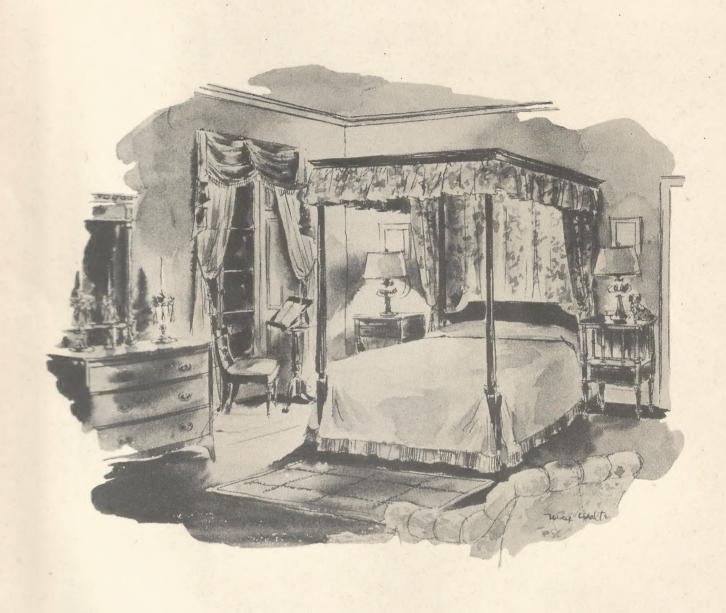
2. Details are developed and perspective lines are checked for accuracy. This is the stage when the artist studies the shapes of the areas created by his outlines, and he modifies these shapes to create a pattern which is pleasing. He also visualizes the entire drawing in its completed state and determines the effect he wishes to produce.

3. Sketching lightly with a pen and ink, Mr. Wolter draws the structural elements of the furniture. The looseness of his style gives a livable quality to the interior. Then, using Windsor and Newton lampblack, he washes in the tone pattern, leaving white the areas he has selected to show in full light. At this stage the picture begins to take shape.

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Max Wolter

4. The water-color washes are built up to their final intensity, accents being placed according to plan. The lighting effect as from the lamps on the side table is consistent throughout the drawing. The feature of the room seems to be the interesting light on the drapes at the back of the bed, which is made to appear more brilliant by the black headboard.

Courtesy of W. & J. Sloane, Fifth Avenue, New York

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Max Wolter
(*continued*)

This illustration is reproduced the same size as the original drawing, to show the artist's technique more comprehensively. It will be noted that throughout his work Mr. Wolter establishes the source of light within his picture and tones his objects to be in agreement with it. Sometimes two sources of light are used, as in this drawing—the fireplace and the lamp.

Courtesy of W. & J. Sloane, Fifth Avenue, New York

About Gene Byrnes

IN ADDITION to rounding up the 138 artists whose work appears in *The Complete Guide to Drawing*, Gene Byrnes found time to continue his own syndicated comic strip, "Reg'lar Fellers," and also to direct numerous 16-mm. educational films on drawing which are now being used by schools, clubs, home and film libraries all over the country. He has just signed a contract with World-Wide Pictures to produce more of these films for even wider distribution. Since its inception, "Reg'lar Fellers" has been translated into many languages, and over a period of time it has appeared in more than 800 newspapers and magazines throughout the world.

About A. Thornton Bishop

A. THORNTON BISHOP turned his back on the college in his home town of New Haven, Conn., and attended art schools both in the United States and Europe instead. For twelve years he taught at the Grand Central School of Art in New York City, at the same time maintaining his own studio as an architectural renderer. Mr. Bishop is now Executive Editor of the company publications of the Metropolitan Life Insurance Company. He spends his spare time writing articles and books on art and making architectural renderings for real-estate operators.